The Tides of WAR

and the PORT of BRISTOL 1914–1918

W. G. Neale

THE TIDES OF WAR
AND
THE PORT OF BRISTOL

1914–1918

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THE TIDES OF WAR
AND
THE PORT OF BRISTOL

1914 — 1918

W. G. NEALE

Secretary to the Port of Bristol Authority 1943 - 1965
Freeman of the City and County of Bristol

THE PORT OF BRISTOL AUTHORITY
BRISTOL
1976

"... a moat defensive ..."

SHAKESPEARE,
King Richard the Second,
Act II, Scene 1.

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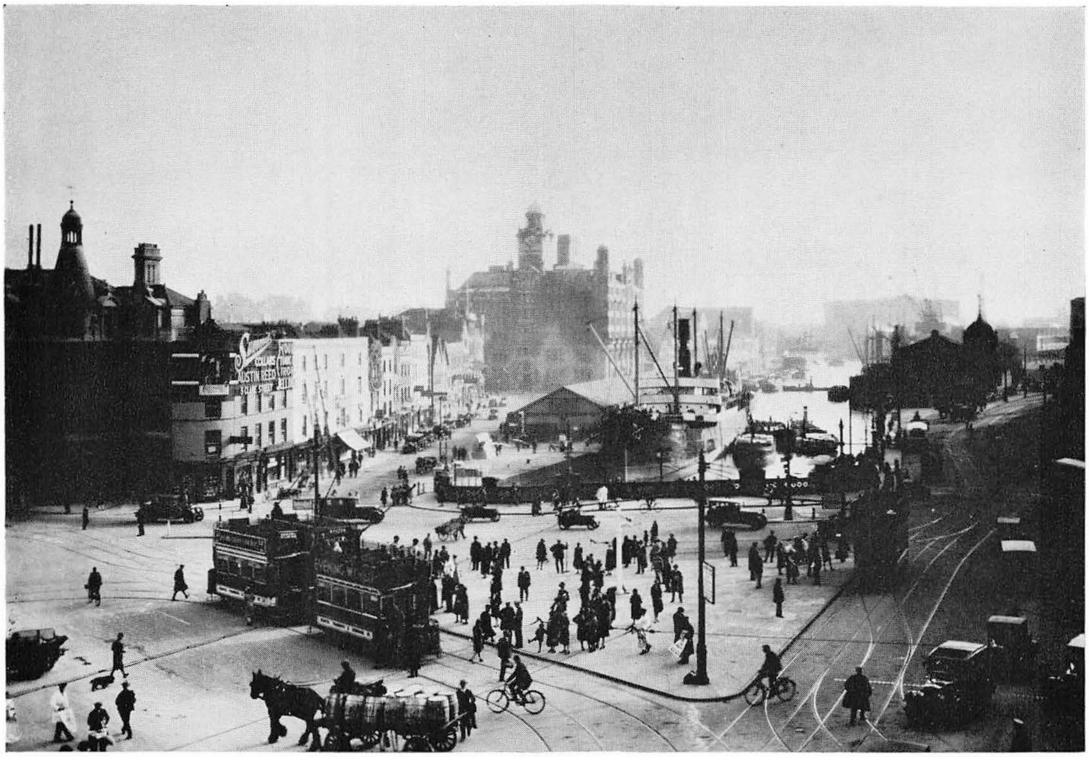

St. Augustine's Reach

The setting of this view across the "Tramways Centre" upon a dull day in October 1929 is hardly different from what it would have been in 1914. St. Augustine's Bridge, that one-sided bridge in the middle of the picture, here sets an end to port navigation as it had done since the 1890's. Yet we still called it "The Drawbridge" in memory of the contraption that had let small ships pass to berth at quayage alongside another 800 feet of the River Froom up to the Quay Head at the Stone Bridge.

On the left an interesting jumble of shops and inns leads the eye along the Broad Quay, known of old as Bristol Quay, to the Co-operative Wholesale Society's building where the Narrow Quay begins. At the far end of the Reach the Princes Wharf Granary stands. On the right of the shining water lie the transit sheds of Deans Marsh ending in what is here a dark façade, the ornamental end wall and dome that Shed E shows to the citizens. Beyond, the dock cranes bow slowly back and forth to the cargo ships beneath.

The entire reach is busy with shipping and cargo in a way that has for centuries past been both a superb amenity and an absorbing interest for the burghers of Bristol and their families.

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Introduction

LITTLE has been told up to this present time of the unusual events, the successes and the failures at the Port of Bristol from the 4th August 1914 to the 11th November 1918. The veil of wartime security quickly descended. Newspapers fell silent on such affairs. Dock entrances were guarded at Avonmouth and Portishead; dock fences were patrolled. Accordingly it seems to me that while the light of memory still holds good, it would be well to set down what I knew or learned during many years at the Port and some time spent among the diffuse records there.

Whatever the war was really about, wherever or why it was won or lost, one factor was dominant soon and late for all the nations concerned. That factor was sea power. One aspect of sea power is the ability of a navy to destroy or deter an armed enemy at sea, but a broader purpose of sea power is to be able to have ships come and go across such seas and oceans on such voyages and with such cargoes or for such purposes as will secure a country's well-being or intentions. For Britain sea power, naval and mercantile, is paramount. Without such sea power we could rapidly starve and in two modern wars we came far too near to hunger. The nearness of German naval bases caused much concern for the safety of shipping bound for London and East Coast ports while the berths in South Coast ports were kept busy with much military traffic on the short sea routes to France. Thus upon West Coast ports, particularly Liverpool and Bristol, there fell the heavy burden of handling both commercial and war traffic often of an unaccustomed kind. Our ports are essential links with sea power and if we look fearlessly at the wartime blunders in the use of the Port of Bristol we shall be able to contemplate but not quantify the general damage at our ports to the national cause.

In peacetime the cause of changes in trade were often only to be found far from the Port. How much more was that to be so in wartime. The affairs of such a port in wartime are too interesting and too complex for no more than a recital of those things that happened then within the bounds of the Port. Where were the ships so many of whose familiar names were no more to be found in the Port arrival lists? What was happening in the Western Approaches through the Atlantic and even in the Bristol Channel? And maybe the reader will be as curious as the writer was to know the destination and the outcome of certain censored departures.

Difficulties not unknown in peacetime soon came to crisis point in the Port. Some of these are described so as to give an insight into the ways of the Port. But none need fear technical complexities because many professional mysteries can easily be told if the teller has a clear mind and the will to be lucid.

So from the sunlit days of the summer of 1914 upon the harbour cobbles at the heart of the beautiful city of Bristol, we begin our tale of events so deeply etched upon the minds of those of us then old enough to be aware of the significance of things.

W. G. N.

Long Ashton,
January, 1976

Acknowledgments

THIS book is mainly based upon Port records and I am grateful to the Chairman and members of the Port of Bristol Authority for the generous access granted to Port documents. Mr. G. L. Lowery, General Manager of the Port, and Mr. G. A. Pike, Assistant General Manager (Finance and Administration), have also shown great kindness and interest during the writing of this work.

Several members of the Port staff have helped me by making Port records available for research. Mr. John Corin and Miss Olive Crouch have also been of help on many occasions.

The late Sir Ian Parkin, the first General Manager of the National Dock Labour Board and known to me from boyhood, lent various dock labour documents and so did my friend John Cross, formerly Secretary of the Port of Bristol Employers' Labour Association.

By now eye-witnesses of events and affairs herein described are not easy to find. I have been fortunate in conversations with Mr. L. E. Herbert and Mr. J. B. Keevill who were members of the Traffic Office at Avonmouth in August 1914. I am indeed indebted to Mr. F. D. Arney, formerly General Manager of the Port, and to Mr. J. A. Philpott for their kindness in so helpfully reading my manuscript. My compliments also go to Mr. Philpott, the Port's former Chief Accountant, for his detailed accuracy regarding things long past.

Outside sources have mostly been sparingly used, but in the course of the book reference has been suitably made. The City's fine Reference Library in College Green has again been much frequented by me and the help of Mr. G. Langley has been invaluable in tracking down likely coverts to beat.

Finally, I express my great indebtedness once again to Miss Vera Flower for her kindness and ability in typing my manuscript with style and accuracy.

W. G. N.

I

1914:
From Peace to War

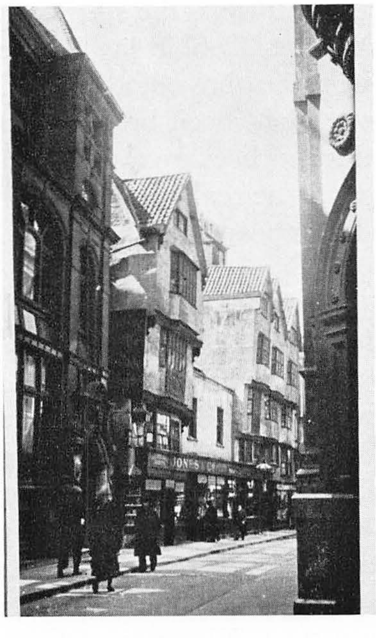
UNTIL the fourth of August nineteen hundred and fourteen the centre of Bristol and the ancient City Quays had many vantage points where to stand awhile was to become aware and, indeed, become part of the continuity of time back to the Middle Ages. There was no need to take care to choose such a spot as gave view of the ancient mansions overhanging Maryleport Street or go to see the leaning tower of the Knights Templars. Nor was there need to await a windless day to gaze along the reflecting Harbour towards the glory of St. Mary Redcliff. For throughout the heart of this city the centuries seemed to linger and pervade the perceptive mind. But on that fourth day of August this sense of continuity was broken as swiftly as reflections in calm water vanish beneath a ruffling wind. The last petals of the Edwardian flower dropped on the day the European war began.

Yet to the camera the mansions of St. Maryleport, the towers, the spires, all would have been the same as in the summer days before. Cobble lay beside cobble in their uneven rows for nearly a mile along the three quays of antiquity. Only our minds knew things were not the same. An era had been broken in a day and could not be put together again. The jolted mind became aware of a sinister reality more powerful than the seen reality or than the reality the ancient city had hitherto aroused in the receptive mind. The unheard rumble of the continental guns now clouded our thought.

Until the day of war Bristol by night had been in outward show a gay city. Many shops in central streets were open until middle evening and many shops after closing of doors showed rich displays in windows ablaze with light. Electric light in shops was mostly the golden yellow of tungsten lamps, here and there older shops shone with the greener yellow of gas. Out in the main streets the large spheres hanging from electric standards threw down a silvery light and along the dark hillside from Clifton to Kingsdown countless household windows hung over harbour and city and gleamed like a festival of gold and silver lanterns. Elegant Clifton lit and hung against the night the elongated windows of the Regency whereas overhanging the city the windows of steep Kingsdown shone squat and square.

Few now lived in the centre of the city but on any evening of fair weather crowds of people came down from hilly suburbs to the bright scene, to theatre, to music-hall or to that recent thing the cinematograph. Meetings and social functions of all manner of societies flourished. Many people came simply to gaze at the shops, to walk, to talk, to meet those they knew or those they did not. But bright lights throw dark shadows. Too many aged shuffled in drab misery and here and there a beggar waited out of public gaze to mumble a sad tale in hope of charity. From the bright city set upon the little hill where once had stood the Norman castle and the walled city, not many people came down after dark to wander along the nearby cobbles of the ancient City Quays. These quays lined the waterfront of a square peninsula at the heart of which was Queen Square named after Queen Anne and dominated at the centre where eight paths met after forming eight triangular lawns, by the splendid equestrian statue in bronze of William III by Rysbrack. For this magnificent work erected in 1742 the Whig oligarchy paid the sculptor the sum of £1,800. From some distance ahead monarch and horse appear to be moving towards the viewer and there the monarch rode serene throughout the frenzied Reform riots of 1831 when so much of the Square with the Mayor's Mansion House and the Customs House was gutted by fire.

Upon the eastern side of Queen Square stood the Head Offices of the Port. The Bristol Corporation owned the entire dock system. The City Docks that threaded through the heart of Bristol lay seven miles up the River Avon. Upon the northern side of the rivermouth where the Avon joined the Severn to merge into the Bristol Channel, stood the Avonmouth Dock of 1877 linked to the modern Royal Edward Dock opened in 1908. Portishead Dock lay a mile along the coast on the south side of the rivermouth and had been opened in 1879. Empowered by an Act of Parliament in 1803 the Bristol Dock Company had dockised the ancient tidal harbour at Bristol by building entrance locks near the Georgian spa at Hotwells. In 1848 the Bristol Corporation took over the City Docks and in 1884 purchased the docks of the fiercely competing Avonmouth and Portishead companies. The City Council appointed annually from among its elected members a number of aldermen and councillors to manage the docks. This committee, officially termed the Bristol Docks Committee, eventually came to be known in commerce as the Port of Bristol Authority. For our purposes the titles are interchangeable. The Docks Committee


Ancient mansions of St. Maryleport. Destroyed 23rd November 1940. Photographed 1940 by W. G. Neale.

of eleven members usually held its meetings twice a month in the Board Room at Queen Square. The rebuilt Customs House stood across the green lawns upon the south side of the Square and the land bordered by the three ancient quays had grown to be a centre for the offices of shipowners, ship's agents, merchants and those concerned with the trade of the Port.

As the maps at the end of the book show, this marine and mercantile peninsula was set apart from the city upon its north side by Baldwin Street which stretched some twelve hundred feet from Bristol Bridge on the east to St. Augustine's Bridge on the west. This dimension set the width for the whole length of the rectangular peninsula bordered by the ancient City Quays which extended in almost straight lines some sixteen hundred feet from both bridges to join up with the more indented quayage facing south along the Grove. On the eastern side of the peninsula were the road, sheds, and quays of the Welsh Back, on the south a similar assembly stretched along the Grove and on the west were the Narrow Quay and the Broad Quay which was the Bristol Quay of antiquity. Alongside these three quays lapped the olive waters of the Floating Harbour now by night oily and mysterious and alongside these senior quays of the Port there would be moored a miscellany of shipping. From Bristol Bridge there graduated in size and importance down the Welsh Back small coasters, steam or sail, for near South Wales and the small Somerset ports; next the larger coasters for Liverpool; then the fast Princesses of eighteen knots for the East Coast and at the end of the Back the ill-fated Glasgow Shed with steamers for Belfast and Glasgow.

At the flattened angle of the Welsh Back and the Grove was the Hide Shed once no doubt appropriately named though now the Severn trade was here. Along the Grove inset with old square bays, the larger coastal liners for London, Liverpool and Manchester mostly lay. The ships along the length of the Narrow and the Broad Quays were a less settled lot, foreign-going ships, coasters, barges, though at the City end the Bristol Steam Navigation Company plied their Cork, Waterford and other Irish trade. In the early years of the century Irish cattle were driven from the holds down to this central quay within a bellow of those sedate monasteries, the branch offices of leading insurance companies. Between the Port Shed let to the Steam Navigation and St. Augustine's Bridge a small sailing ship was often crowded in and any citizen upwards of fifty years of age who has not in infancy toddled or been wheeled over that bridge and under a bowsprit has a chink in his title to be a Bristolian. Along these ancient quays the smell of merchandise and tarred rope was in the air.

But by night the dark shapes moored along these quays were romantic and sinister, pierced here and there by a small porthole of orange light. Gangways sloped up from the quay, but did not invite. Mooring ropes stretched into the gloom to wrap round bollards and bring about the heedless wanderer's fall.

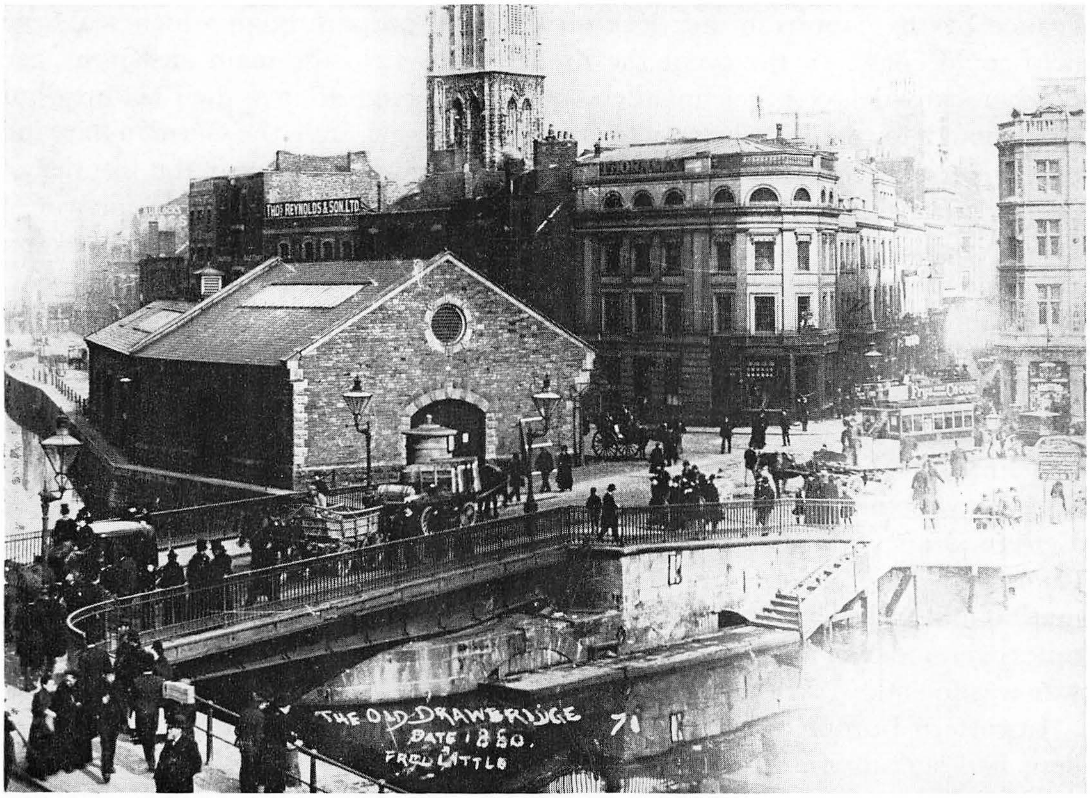
Barrels, baulks and barrows lumbered the quays. Great high-sided waggons and four-wheeled flats were left deserted on the quays with the shafts chained at the vertical like antelope horns. The gas lamps down here were few and their four-sided lanterns threw out a greenish light. Yet like the rest of Bristol in the ten years before 1914 it was safe night or day for the passing boy who minded his own business. It was quiet except in the quayside taverns and a suitable place for a lad to smoke to the end his first long dark Havana and face the consequence in suitable obscurity.

Even as the Napoleonic war and the onset of the industrial revolution marked the ending, for good and for ill, of eighteenth-century values so the 1914 war and the exercises in rapid mass production were to end, again for good and for ill, many Victorian and Edwardian values. One who lived in a modest and radical home within a low-income area regrets that propagandists now ignore the large area of content and human happiness there and then to be found and prefer for their purposes to dilate upon the 10 per cent margin of often avoidable poverty. Those with pretensions to truth, not the exclusive preserve of propagandists, should avoid Dickensian exaggerations. The aim of history is fact and truth. True colour values are vivid enough.

The apprehensions in early August of days of wrath to come were not denied by the remaining months of the year. By New Year Day 1915 much had happened in the course of the war and this tapestry of events at the Port for the next four years will be woven against the vast fabric of the war. So much has been written and so much is widely known about the martial events of those years that there is little need and less intent of here describing the campaigns except to show design and significance in Port events.

It may be that the prime purpose of an army or a navy is to fight battles, but often even in war and certainly in peacetime a more fruitful purpose is to be or appear to be ready and able to fight so as to make an enemy attack too hazardous. This readiness gives strength and prestige to the diplomacy of a nation desiring the continuance of peace and when after the failure of such diplomacy an aggressor has to be resisted in war, battles may fail to be the highway to victory even if they are not the road to disaster or defeat. Battle is usually the largest, clumsiest and most expensive key upon the ring of keys required to open the door to victory. It is often tried too often and tried uselessly upon a door a small quieter key would set ajar. Unless we observe how an unobtrusive key was gradually used between 1914 and 1918, the wartime happenings at the Port of Bristol will merely be recorded rather than understood.

A port historian is an amphibious creature who like the captain of a ship should not be tempted to go too far ashore; so the state of the war on the continent of Europe by the 1st January 1915 shall quickly be summed up for our purpose. The German plan in the West intended the capture of Paris and the isolation of



THE DRAWBRIDGE

THIS BRIDGE, THE LAST OF A SUCCESSION OF DRAWBRIDGES, crossed the Floating Harbour approximately where St. Augustine's Bridge is shown in the frontispiece. The Drawbridge weighing 130 tons endured and was endured by the citizens from 1868 until 1893. In this photograph said to have been taken in the eighteen-eighties, we see the eastern quay beyond the Drawbridge where the Harbour fed by the River Froom stretched away some eight hundred feet so that small craft could be moored as far as the Stone Bridge at the lower end of Small Street.

Among much period detail we notice a horse tram of an appearance that the electric trams so soon to be introduced were closely to follow. A typical selection of horse-drawn vehicles for goods and for passengers is on view. We note that the berth for the penny steamers (children half-price) that plied up and down the Harbour was then upon the Broad Quay. Of the principal features of this scene only St. Stephen's tower and the corner shop on the extreme right of the picture now remain, but those celebrated tobacconists, Glass and Company, with their stock of luxurious Havanas, have now some years since left the corner shop.

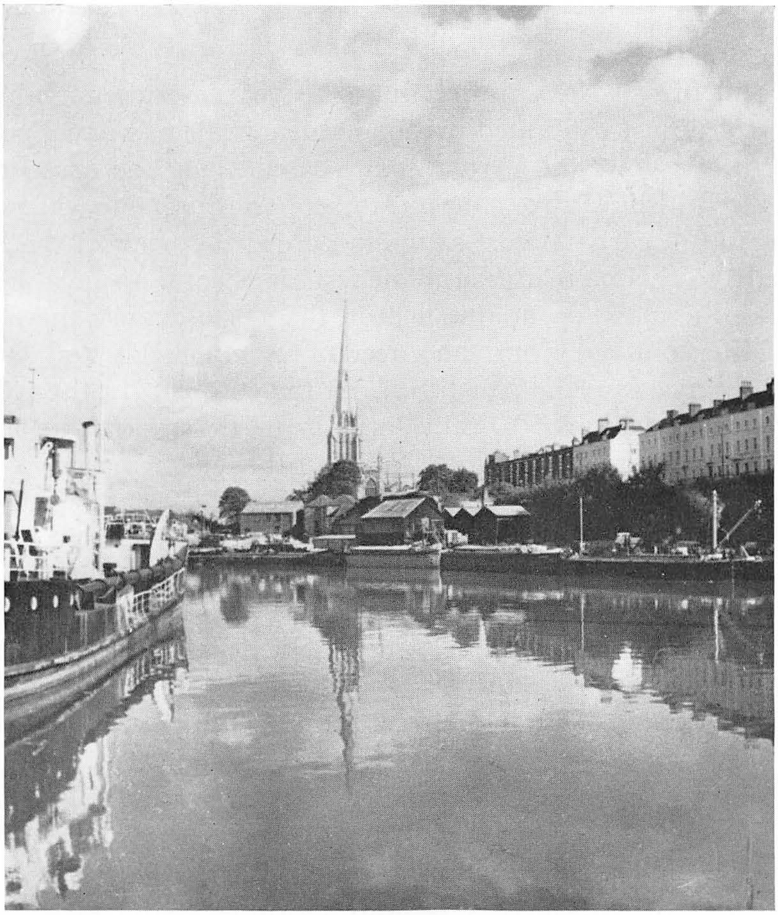
This photograph from the Fred Little collection is used by kind permission of H. Salanson & Co. Ltd. of Fairfax Street, Bristol.

France by the capture of her English Channel ports through which seaborne help could come. In the event the French army held the main onslaught, the Belgian army delayed their invaders, not long enough to save their country but long enough for the British army to cross the Channel, stem the German flanking movement and cover the Channel ports by holding a line near the frontier of France and Belgium. Possibly the military concept was a vast Napoleonic war of movement ranging from the North Sea to the Alps, but no Napoleon emerged on either side throughout this war nor did a commander such as Wellington appear. What did appear was hundreds of thousands of spades which, manned by survivors, dug two opposing systems of trenches all the way across broad France from the English Channel to the frontier of Switzerland. The spade proved mightier than the sword.

Behind the French, Belgian and British lines on the first day of nineteen fifteen lay Dunkirk, Lille, Valenciennes, Maubeuge, Mézières, the fortress of Verdun, Nancy and Belfort. The Germans held their lines in front of Ostend, Courtrai, Mons, Luxemburg, Metz and Mulhausen. And there we leave the mudbound lines that were to waver brutally back and forth for a few tortured miles over and over again during the three long years before the year in which the war was to end.

In eastern Europe, Russia after appalling disaster and ineptitude at Tannenberg had stabilised an icy front against the Germans and their Austrian ally. As Nicholas, a former Emperor of Russia, had once said: "Russia has two generals in whom she can confide—Generals January and February." Unfortunately, unlike the English "moat defensive", the two generals only caused concern to the enemy on frost-bitten occasions.

Upon the surface of England's moat defensive much had happened during the first five months of the war though what had not happened was truly of more importance. The Liberal Government before the outbreak of the war is generally regarded as the most brilliant peace-time administration this country has had this century. Other contestants for the honour have to set themselves against Herbert Asquith as Prime Minister, David Lloyd George as Chancellor of the Exchequer, Sir Edward Grey as Foreign Minister, Haldane as War Minister and Winston Churchill as First Lord of the Admiralty. Such a government however devoted to the ways of peace and steady social reform was unlikely to overlook or ignore the increasing evidence of militarism which could be both seen and heard upon the other side of the northern part of the moat. In particular, German naval expansion including the building of formidable battleships was of vital concern to an island nation which had the largest merchant fleet in the world and depended on seaborne routes for some two-thirds of its sustenance and for a huge import and export trade. The great German naval programme was therefore reluctantly matched in the decade before 1914 by the addition



The Church of St. Mary Redcliff, Bristol

From a vantage point near Princes Street Bridge at the City Docks we look along the Floating Harbour, once the immemorial course of the River Avon, towards the fourteenth-century church of St. Mary Redcliff some five hundred yards distant. In the 1860's this stretch of water was packed with sailing ships and in the 1900's sailing ships and steamers would be seen clustered together. Today it seems that the harbour, the church and the sky have a constancy denied to nearly everything else on view.

Gone since the 1890's are the West African sailing ships of the Daniels and the Poole Kings that used to moor along the quays upon the right where now the barges lie. Behind the quays there, the sandstone cliffs of Redcliff rise and above, the Georgian houses of Redcliff Parade remain. The nearer and better houses were built in the 1770's at the instance of Sydenham Teast who then owned a number of small docks and land at Wapping where unseen upon our right the harbour entrance to Bathurst Basin and Bathurst Wharf now stand. The poorer red brick houses of the Parade were built in the 1800's.

Gone too from this picture for the widening of Redcliff Hill is the eighteenth-century shot tower of the inventor William Watts that in former pictures stood between the Church and the far end of the Parade. Yet if we look for constancy then it should be remembered that had we stood hereabout in 1800 we should be looking along the course of a tidal river that showed banks of mud with moored ships perched thereon at low water and that Redcliff spire had long been truncated almost to tower level before the rebuilding of the spire in 1872.

But change is the stuff of history.

to the powerful British Navy of dreadnoughts, battle-cruisers and lesser naval craft. The result was a continued preponderance in British naval power.

The growth of a powerful German navy based along the coasts of Germany had caused the British Navy to concentrate its power in home waters. In the last days of July and in early August as tension grew, the fleets of the Royal Navy moved quietly to their already appointed stations so as to be able to bring at shortest notice the most formidable fleet in the world against the German fleet should the latter put out from the cover of its minefields and bases for any appreciable distance into the North Sea. By the end of 1914 the German High Seas Fleet had not ventured to sally forth in battle strength to challenge the Royal Navy for mastery of the North Sea and thence for mastery of the oceans of the world.

It is true that after a stormy night on the 16th December 1914 the entire German battle-cruiser squadron, the *Derrflinger*, *Moltke*, *Seydlitz*, *Von der Tann* and the armoured cruiser *Blucher* came close to the English coast and for half an hour poured shells into Scarborough and Hartlepool. More than one hundred people were killed in these harmless towns before the five ships turned and steamed at high speed back to Germany. Moral considerations apart, it seems a puerile and risky affair. Battle-cruisers, powerful though they were, formed only part of the full panoply of a High Seas fleet comprising battleships, battle-cruisers, cruisers light and heavy, destroyers, submarines and torpedo boats in descending order of armour and power. The risk of such a venture was shown the following month early on the Sunday morning of the 24th January 1915 when the same squadron less the damaged *Von der Tann* was sighted by the British battle-cruiser squadron at the Dogger Bank. The German squadron turned for home. The British squadron led by Vice-admiral Sir David Beatty in his flagship H.M.S. *Lion* and followed in line by the *Tiger*, *Princess Royal* and the slower battle-cruisers *New Zealand* and *Indomitable* pursued. Battle was joined at 9.30 a.m. and a well-contested running fight took place. At 1 p.m. the *Blucher* fell out of line, capsized and sank with the loss of several hundred men. Two other German battle-cruisers were heavily damaged and pursuit continued until the three German ships were able to get into cover of their minefields and the probable cover of submarines. Sunday morning churchgoers along the English shore had not been disturbed, the offence of Scarborough and Hartlepool had been repaid in steel coinage, the entire German battle-cruiser squadron was in poor shape and the grip of Britain upon the North Sea had been shown.

By taking up war stations in early August the British Navy had at once closed to enemy surface shipping the southern entrance to the North Sea through the Straits of Dover. The British Expeditionary Force would thus be free to embark and cross the English Channel to aid France and Belgium without risk of major disaster on the sea crossing. One point of embarkation for the army and its equipment was the Port's Royal Edward Dock opened in 1908 by the monarch whose name it bore. There may seem to be an historical propriety in that from the Royal Edward Lock of such adequate proportions there should sally forth a part of that armada of heroic men sent to help save the country with whom Edward the Seventh had encouraged the Entente Cordiale.

The setting forth to sea of this small but superb army was an event of world significance. The mind recalls other hosts known or reputed to have set out in ships upon their great occasions, kinglets of ancient Greece each rowed in his war galley by his men over the wine-dark sea to distant Troy, Normans bound for Pevensey, the bowmen of Agincourt when "Fair stood the wind for France", the sea-sick infantry bucketing down to the Peninsula under Moore and again under Wellington's command. We almost, and perhaps rightly, hear the Pomp and Circumstance March No. 4 by Elgar as the ships from Avonmouth glide away past Portishead Point down the Bristol Channel. But if stood on that Point we think we see great transports and proud liners steaming past in convoy on the fifth day of August we are mistaken.

II

1914:

The First Movement

DURING the evening of Saturday the 1st August military stores began to arrive at the docks and by Tuesday the 4th supplies had rapidly accumulated both by road and by rail. Many transit sheds and much land were requisitioned from the Port that day. Under a Royal Proclamation of the 3rd August His Majesty's Government could requisition ships for naval and military purposes and did so. It was Monday the 10th before the first-fruits steamed in, the *Albano*, the *Apollo*, the *Silvio*, the *Trevince*, from Hull, Liverpool, Hull and Barry, 519 tons net, 2,443 tons, 651 tons and 2,479 tons respectively. *Blakemoor*, *Diadem*, *Echo*, *Lord Tredegar*, *Mokta*, *Tasso*, *Thurso* and *Trelawny* arrived on the 11th, the largest ship the *Trelawny*, 2,479 tons, the smallest the *Echo*, a Bristol Steam Navigation ship of 570 tons brought down Severn from Sharpness and like that Company's *Tasso* lately on the Antwerp run. On Wednesday there came *Cadeby*, *Ethelbryhta*, *Ilwen*, *Nora*, *St. Andrews*, *Wearpool*, *Woodfield* and *Whateley Hall* ranging in size from 677 to 3,073 tons. *Beethoven*, 2,361 tons, entered from Penarth across the Bristol Channel on Thursday the 13th accompanied by *Dido*, *Fairport*, *Fulgens*, *Hambleton Range*, *Stamfordham* and in a wanderer's return the *Natal Transport*.

It was the arrival at the Royal Edward Dock in June 1910 of the *Natal Transport* that had angered the dockers who claimed that the cargo she came to load had been diverted from the strike-bound port of Newport. Their anger increased when the owners proceeded to load the steamer by bringing strike-breakers from other parts of the country and this led to a dock strike that continued in the following month. Even the sturdy ears of the military must have pricked up at the scorching bursts of comment when the quayside dockers saw this monstrous ship again for the first time since she had at last sailed away in 1910. There is an art in malediction and as a connoisseur perforce the writer ranks the docker high. The flow was spontaneous, inventive, witty, rich in rough imagery and pungently relative to the object, the circumstance or the person reviled. Certain coarse short words, now the delight of an alleged intelligentsia, were not customarily used by those quayside poets of the vernacular. Even if directly addressed, one need not take offence, it was really a volcanic outburst against the whole creation by a hard-pressed man. What man of spirit has not sometimes felt so? Of course the Greeks had a word for this verbal relief. Catharsis!

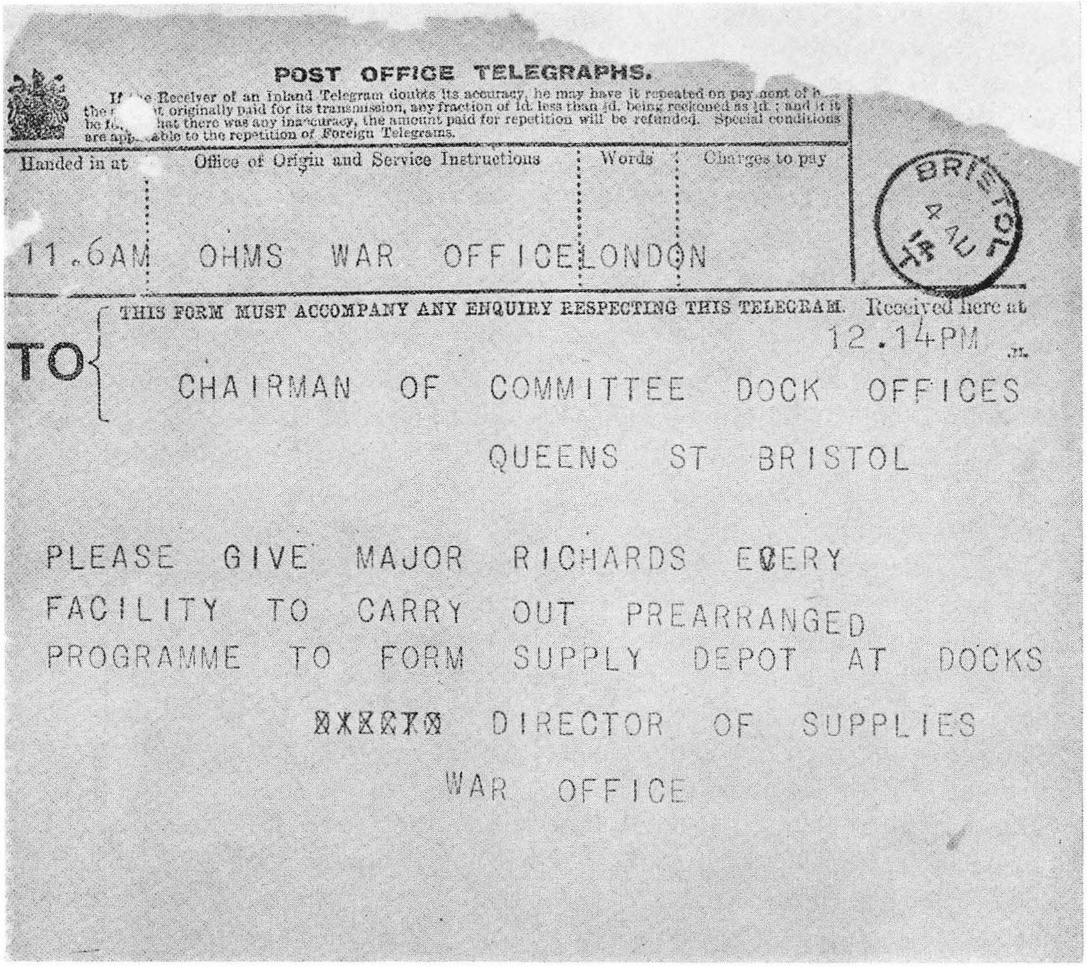
Apart from ill-conceived weeding operations in the 1920's much of this century's correspondence in Queen Square is to be found well indexed under subjects. File C/1955, "European War 1914–15—Sundry Matters"—the date shows optimism—holds a pencil note by Enos Lee, Personal Outdoor Assistant to Ross-Johnson, the General Manager. It was written on the morning the first transports came in and recorded a message from George Collins, the Traffic Manager at Avonmouth Docks:

> "The Military Authorities now say they are taking over the Continental Hotel altogether. A German was found there last night with a lantern intending to go round the Docks. He is now in the hands of the Military."

It was presumably the melodramatic dark lantern used by burglar and watchman alike, lit within by candle or oil lamp and screened by a moving shutter. To the burgled it could give to the nose a warning withheld from ear and eye. The fate of the alleged German is not known. Spy mania was rife. The Continental Hotel, formerly known as the Avonmouth Hotel, had since 1910 been a gathering point for European emigrants waiting to sail to Canada by the Royal Line. Perhaps the German could claim to be waiting for either the *Royal George* whose outward voyages to Montreal continued until the 7th September or for the *Royal Edward* whose similar outward voyages continued until the 19th September 1914. As the Avonmouth map at the end of this volume shows, the hotel was an excellent vantage point within the Dock fence but a risky spot for any alien with a lantern on the night of the 9th August 1914.

The arrival at Avonmouth of ships from other ports for the embarkation phase known as the First Movement ended on Friday the 14th August with the entry of the steamships *Artist*, *Clan Sutherland*, *Maureen*, *Muriel Coverdale* and the *Trevilley*. The largest of the ships to arrive in the five days from Monday to Friday was the *Dido* of 3,127 tons net and the smallest the *Albano* of 519 tons. No ships arrived on Saturday the 15th or on Sunday the 16th to load for this movement and on Monday the 17th the only transport to arrive was the *Western Coast* of 1,166 tons gross and 487 tons net which came from London and did not sail O.H.M.S. until Thursday the 20th, after the end of the First Movement, with 1,323 tons of petroleum and 202 tons of lamp oil in cases and casks.

So far we have counted thirty-two ships arriving at Avonmouth to take some part of the British Expeditionary Force to France. This tally comes from the Port Authority's Entry Register of ships arriving from overseas or arriving to load for overseas. The Entry Register indicates government transport with the letters O.H.M.S. The thirty-two ships all came from United Kingdom ports, one from Newcastle, four from Hull, three from London, one from Fowey, one from Sharpness, one from Newport, five probably from coaling at Cardiff, one from Penarth, ten from the coaling port of Barry, one from Port Talbot, three from Liverpool and one from Glasgow. It seems a haphazard scraping together



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11.6AM	OHMS WAR OFFICE	LONDON	

BRISTOL
4 AU 14

THIS FORM MUST ACCOMPANY ANY ENQUIRY RESPECTING THIS TELEGRAM. Received here at 12.14PM m.

TO CHAIRMAN OF COMMITTEE DOCK OFFICES
QUEENS ST BRISTOL

PLEASE GIVE MAJOR RICHARDS EVERY FACILITY TO CARRY OUT PREARRANGED PROGRAMME TO FORM SUPPLY DEPOT AT DOCKS

XXXXXX DIRECTOR OF SUPPLIES
WAR OFFICE

The Port is called to War

"As early as the 2nd August, 1914, officers of the Army Service Corps came to the Docks and took possession of some of the principal transit sheds for the establishment of a Base Supply Depot, which was utilised as a distribution centre of Army stores for Overseas and Home Forces. During the first weeks of the war several thousand men were mobilised at Avonmouth, and the whole of the organising and equipment was carried out on the Dock premises. Motor vehicles of all descriptions were collected from various parts of the United Kingdom, and large convoys were driven alongside transports, lifted on board by cranes and conveyed overseas."

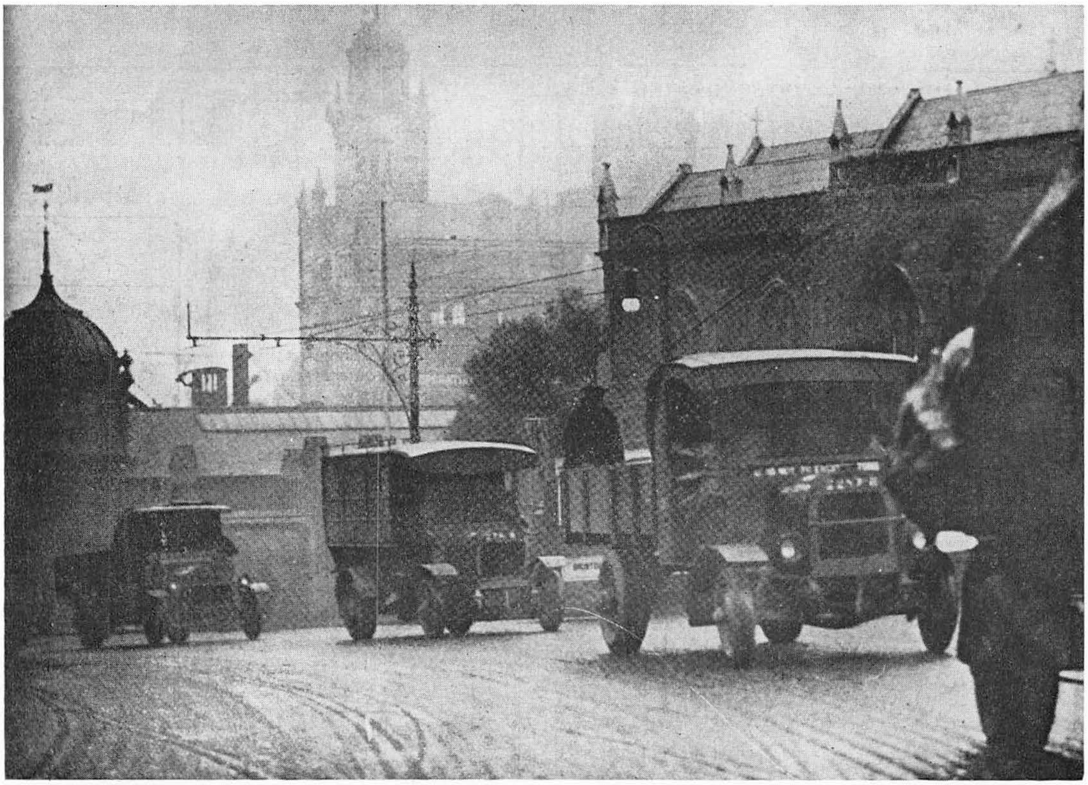
Extract from the General Manager's Annual Report for 1919 concerning the Port's activities during the 1914–1918 War.

of small to medium-sized merchant ships for so great a venture, but has not this flexible island people usually gone to war that way?

It now remains to be seen what happened next to these thirty-two ships in the Avonmouth Docks under Government orders. For this the Outward Clearance Book is available, a source which records only those ships bound for overseas ports. The Port's coastwise records inwards and outwards do not appear to have survived those periodical clearances which, often unknown to or unsupervised by responsible officers, are carried out when the allotted storage space becomes full. Thus it is that what is well-known at the time can be unknown to all tomorrows.

However, the Outward Clearance Book shows that on Wednesday the 12th August the *Trelawny* of 2,479 tons net and inward from Barry the previous day was the first transport to sail and carried 47 motor cars, etc. weighing 160 tons. There also sailed that day the *Cadeby* of 677 tons net with 13 motor vans weighing 39 tons, the *Blakemoor* of 2,409 tons with 25 motor vans at 106 tons and with 59 tins of petrol, the *Thurso* of 729 tons carrying 15 motor vans weighing 46 tons, the *Mokta* of 2,475 tons with 43 motor vans at 99 tons and the *Trevince* of 2,479 tons whose holds held 49 motor vans weighing 158 tons. From the varying average weight of the vans in each ship it is clear that the requisitioning officers had been scurrying up and down the highways and byways of commerce gathering what they could. Their net must have been cast far and wide because the day of the horse of which the requisitioners collected 120,000 was by no means over as a beast of burden. An observer in Bristol in 1914 would note that there were in use far more horse-drawn wagons, lorries, vans and carts than motor lorries and motor vans and could we but see a film from kerbside angle of the requisitioned motor vans making their way in convoy through Bristol streets towards Avonmouth we should regard the passing pageant of those primitive and often grotesque shapes as the hall-mark of some master of the silent cinema.

To those for whom the Avonmouth Docks had long been an almost daily scene, the happenings there were now a fantasy. Before August 1914 the Avonmouth Docks, ships and water excluded, were in effect a railway depot upon the landward parts. We learn from J. B. Keevil, genial member of the office staff from 1912 until recently, that before the 1914 war practically the only road intruder was a horse-drawn lorry come three or four miles to take barley to the grist mill in Coombe Dingle of E. Ball and Son. Strikes, rail or dock, might see a flurry of horses but such a sight as every available bit of land within the dock being packed with the sizeable motor vans of the dispossessed was up to that day unbelievable. And there were troops billeted in transit sheds, transit sheds with merchandise therein, transit sheds hitherto watched when open and seen to be locked when shut by Customs men. Strange things must be afoot when nearly all their sheds could be taken in a day from "the company" as the docker called the august Port Authority. This name presumably enshrined and enshrines in



Lorries for Avonmouth Docks

Snow is falling and since Bristol was at least spared a snowfall in August 1914 we are not looking at part of the concourse of commercial vehicles that daily rolled through the city and over the Clifton Downs to join the First Movement at Avonmouth Docks. Convoys of military vehicles did however pass through Bristol for Avonmouth throughout most of the war and we are looking at one of the very few photographs traced as taken by a civilian in Bristol of military affairs pertaining to the Port. It was taken in December 1914 or January 1915 for the magazine *Bristol and the War*.

The convoy is at the rise of St. Augustine's Parade from the Centre to College Green, and en route for Park Street and the Downs. To the right is St. Augustine's Church, demolished in recent years. On the left is the dome of the ornamental facade of Shed E, Deans Marsh. Behind the transit shed there rises in the mist the monstrous building of the Co-operative Wholesale Society at the end of Broad Quay and between that building and Shed E lie the waters of St. Augustine's Reach. The C.W.S. block is at present being demolished. Behind the lorries can be seen an electric tramcar arriving from Hotwells.

docker-lore the Avonmouth founders, the Bristol Port and Channel Dock Company (1864–1884). It was not long before no more space could be found within the docks for vans awaiting transports yet to arrive. Then it was that St. Andrews Road, the 2,300 yard cul-de-sac running north to nowhere and the brain-child of landowner Napier Miles, served its first useful purpose and after that misplaced monument to inutility had been packed on either side of its thirty-foot width, the arriving vans were parked back as far as Shirehampton along the only road to Bristol. The van tide only ebbed away when loading began of the ships for France.

These vans from near and far were driven down to the docks by those who daily drove them. Mission accomplished, the men reported to an office of galvanised iron hot under the August sun in a range of such places stretching away from the red brick Docks Office that then stood immediately to the right of the Gloucester Road entrance to the original Avonmouth Dock of 1877. The Royal Edward Dock lay unseen to the north. The tin section where van drivers went was more than a reporting point it was a recruiting office. Here drivers could volunteer to go with their vans into the British Expeditionary Force. Many did and after a brief recruiting procedure the men were fitted out with their army kit or such part as was to hand. Their heads were then closely cropped and they could go in His Majesty's uniform to the Gloucester Road Railway Station, Avonmouth to send home their bundle of civilian clothes. The recruits, to the amazement of any practical dock man, were quartered with other soldiers in the requisitioned quayside sheds, a dock crime tantamount to pitching tent upon the space where busy highways cross. After much local remonstrance it took Ross-Johnson until the 21st August to get a senior officer down from the Committee of Imperial Defence to move the clogging visitants and their successors to outside billets. Meanwhile through these torrid days the olive waters of the docks became their place of disport. The batter at the north end of the Royal Edward was the only sloping approach to this unhoped-for cool and the masonry beach beside the North Wall was crowded day after day with military bathers sitting or lying in the sun. It was a slice of Bank Holiday beach save that women and children were elsewhere, which was as well since not a hero had the forethought to bring even a brief. It was all against dock by-laws, like much that happens wherever armies go, but for many it was their last swim in anything approximating to the salty sea.

On deck at Avonmouth a glance into the hold of almost any of those requisitioned ships would show that a far greater weight of cargo could be carried except in those ships where commercial cargo remained undischarged. The *Trelawny* for example had a net register tonnage of 2,479 tons which without going into a maze of technical detail is a figure obtained by measuring up her cargo space in cubic feet and then reducing the result into tons on the basis of

100 cubic feet to a ton. The *Trelawny's* holds would thus have measured 247,900 cubic feet. It was on this official registration figure of 2,479 tons that the Port would have levied a tonnage due on the *Trelawny* of 9d. a ton that being the rate then in force for ships leaving the Port of Bristol for any port between Brest and the Skaw, the northernmost point of Denmark; at least, that would have been the rate if the *Trelawny* had been on commerce bound, but the *Trelawny* was now a Government ship and a Harbours Act of 1847 provided that all Crown vessels and goods should have free use of any harbour, dock or pier in this country. In 1910 however when the *Cawdor Castle* brought in troops from Ireland it was eventually agreed with the Director of Military Transport that the Port of Bristol dues on any Crown ship or cargo should be paid at the scheduled rate less an allowance of one-third.

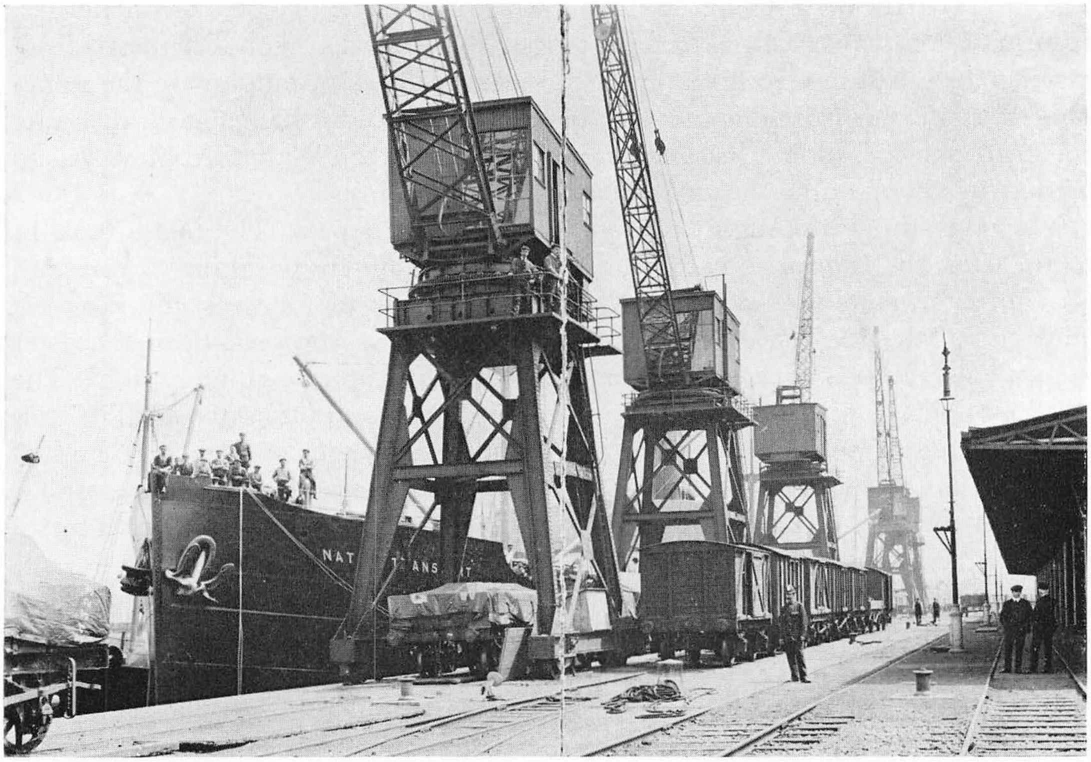
Many ports, and particularly the open harbours, were not so fortunate because the Crown accountants as might be expected were in many places upholding the ancient prerogative of the King's ships freely to enter any harbour or port in the kingdom. After all, what were these enclosed docks but innovations of commercial convenience dating from as recently as the eighteenth century at for example the Old Dock, Liverpool, the Howland Wet Dock at Rotherhithe and the Merchants' Dock at Hotwells? It is a wonder that the precedents of King Alfred, sometime founder of the King's Navy, were not dragged into the argument. How fortunate was Noah to ground at the ebb upon Mount Ararat. Eventually the Rt. Hon. H. H. Asquith, Prime Minister and First Lord of the Treasury, had to be persuaded to give up an afternoon in February 1916 to meet what reads more like a census than a deputation of dock and harbour representatives ranging the Kingdom from Penzance to Shetland, both of whose harbours were among others in financial difficulty through the withholding by the Government of harbour dues. Meanwhile our more fortunate Port quietly received 9d. a ton less one-third on the net tonnage of the *Trelawny* and those other transports journeying to the French Atlantic ports, subject to belated payment not allowed to ordinary shipowners who unless they had opened an ample deposit account with the Port paid tonnage dues before their ship sailed.

Upon the same day as the *Trelawny* sailed, those fellow-travellers from Hull, the *Albano* of 519 tons and the *Silvio* of 651 net register tons, put to sea with cargo more in accord with their capacity. The *Albano* took 582 tons of petrol, 4 tons of oil and 24 hundredweight of carbide of calcium all in drums and cases. The *Silvio* sailed with 652 tons of petrol, 45 tons of lubricating oil and 4 tons of carbide. Old-time motorists and cyclists will remember that carbide was placed in a container under their vehicle lamps and then dampened by turning a screw in an upper water container so that the ill-smelling acetylene gas rose into the lamp jets to be lit by a match so as to throw a white light along the road ahead. L. C. Pearce writing in the *North Somerset Mercury* of the 16th April 1971 records that in 1910 the new village hall at Backwell was lighted by acetylene gas. Insurance companies classed carbide among the hazardous goods. Imports from Sweden into Bristol were stored by Whitwill's Transport Company in the stone-built Waterford Shed alongside Cumberland Basin and a higher insurance rate was paid on the building because of the hazard. But the Waterford Shed was to be destroyed by another hazard than carbide of calcium.

Thursday the 13th August saw nine more ships depart. The *Tasso* took 14 motor vans, the *Diadem* 42 vans, the *Whateley Hall* 38 vans weighing 92 tons and a motor car weighing 2 tons. The *Ethelbryhta* took 43 motor vans, the *Woodfield* 38 vans and the *St. Andrews* 37 vans. Upon this day the *Monmouth Coast*, a coaster of 431 tons net, was pressed into service to take 16 vans weighing 45 tons. The *Apollo* not only took 26 vans weighing 153 tons but also 145 tons of coal. The *Echo* took 201 tons of petrol in casks, cases and barrels, 13 tons of oil and 16 cwt. of carbide thus to ensure that all circumstances being propitious the 254 motor vans and the two-ton car that left the Port that Thursday might on arrival travel both by day and by night.

Friday the 14th August was a quiet day. Only the *Ilwen* left with 39 motor vans 140 tons in weight. On Saturday the 15th, the *Fairport* with 39 motor vans, the *Natal Transport* with 42 vans, the *Wearpool* with 33 vans and the *Nora* with 37 vans left for an undeclared O.H.M.S. destination. The *Wearpool* also took 295 tons of coal. Sunday the 16th saw no respite day or night. The *Muriel Coverdale* sailed with 37 motor vans and 15 lorries, the *Beethoven* with 48 vans, 36 drums of carbide weighing 18 cwt. and 70 tins of petrol of the same weight. The *Artist* with 38 vans, *Hambleton Range* with 35 vans and *Maureen* with 36 vans also sailed upon that sabbath day. The *Lord Tredegar* left on Monday the 17th with 14 motor vans at 53 tons and 102 tons of stores. All the vans mentioned were motor vans. The First Movement at the Port ended significantly enough on Tuesday the 18th August. Only the *Dido* sailed. At 3,127 tons net this last and largest ship of the First Movement from Avonmouth sailed away with 117 ambulance wagons weighing 221 tons and also with 36 tons of coal. Four of the requisitioned ships did not sail on the First Movement. The *Stamfordham* sailed light overseas on Wednesday the 19th. The *Trevilley* loaded for overseas on Thursday the 20th with a cargo of open lorries, motor cars, 423 cases of stores and machinery amounting to 339 tons in all. There is no reference in the outward overseas sailings to the *Fulgens* that came in O.H.M.S. from London on the 13th August or to the *Clan Sutherland* that came in O.H.M.S. from Glasgow on the following day. Both probably sailed coastwise either light or loaded to another British port.

Within the seven days from Wednesday the 12th August to Tuesday the 18th August 29 ships including the *Monmouth Coast* had sailed overseas with 797 motor vans, 15 lorries, 48 motor cars, 117 ambulance wagons, 1,437 tons of



S.S. *Natal Transport*

On the 20th June 1910 the *Natal Transport*, Houlder Brothers' new steamer of 4,107 tons gross, 2,648 tons net, arrived at the Royal Edward Dock to load for her maiden voyage to the River Plate with 4,000 tons of machinery and other goods already arrived by rail from the Midlands. The entry of this ship caused the Avonmouth dockers' strike of 1910 since the men claimed the cargo had been diverted at Gloucester from going to Newport where a dock strike was already in progress against daywork rates in lieu of piecework rates for loading a sister ship the *Indian Transport*. During and shortly after the strike a series of photographs were taken of the crowded shipping at the docks and in the picture now shown the *Natal Transport* is berthed alongside Shed S in the Royal Edward Dock. Some of the crew are prominent in the bows and so is the policeman on the quay, presumably to warn off trouble-makers since the ship was being loaded by strike-breakers brought in by the owners. The steamer lies low alongside the quay so that most of her cargo was already aboard. The *Natal Transport* sailed on the 15th July 1910.

For the First Movement to France the ship came in from Cardiff on the 13th August 1914 and left on Saturday the 15th with 42 vans about 150 tons in weight. We shall read later that the steamer was torpedoed by a German submarine off Crete on the 4th September 1915.

petroleum, 476 tons of coal, 63 tons of lubricating oil, 6 tons of carbide of calcium and 124 tons of stores, a total load of 5,205 tons of cargo. To move this cargo, 29 ships with a net register tonnage of 58,263 tons were employed. The average tonnage of the 29 ships was 2,065 tons net, a figure somewhat diminished by the six small ships of under 700 tons. Eighteen of the ships were between 2,300 and 2,600 tons net and that can be taken as the typical size of ship engaged in this movement from Avonmouth. Such ships would probably have a net register of about 1,000 tons more than the larger of the foreign-going cargo ships that in 1914 entered the City Docks, where however the largest ship of the Bristol City Line, the *New York City*, was 1,875 tons net and berthed for about ten to fifteen days every two months at Shed Y, Canons Marsh in the course of her New York to Bristol run. The Port records do not show to what French port these ships of the First Movement were bound.

In one of his August reports to the Docks Committee on the transport position Ross-Johnson pointed out that the cargoes carried in these ships on military occasions were much smaller than usual in commercial practice. As we have seen, the *Mokta* of 2,475 tons net sailed on the 12th with 43 motor vans weighing 99 tons. The ship arrived back on the 18th and sailed again on the 26th with 619 motor cycles of 5 cwt. apiece totalling 154¾ tons and also with 5 tons of stores. The *Mokta* returned from abroad on the 30th and left next day with 588 tons of oats, 100 tons of biscuits, 4 tons of tea, 13 tons of sugar, 2 tons of lime juice, 105 tons of meat, 17 tons of cheese and 103 tons of sundries. Of this outward cargo of 932 tons, 259 tons were loaded during ordinary working hours and 673 tons during overtime. Work at the docks was continuous night and day from the 10th to the 18th August and for some time to come on such occasions as the loading of a transport. This mixed general cargo of 932 tons was however very much less than the *Mokta* registered at 2,475 tons net could have carried in her cargo space of nearly a quarter of a million cubic feet.

Other ports than Bristol were occupied in the embarkation for France of the British Expeditionary Force numbering about 90,000 men. A brief account of such movement elsewhere has been gathered from the volumes on *Naval Operations* by Sir Julian Corbett, on *Seaborne Trade* by C. E. Fayle, on *The Merchant Navy* by Sir Archibald Hurd and on *Military Operations—France and Belgium—1914*. All these books form part of *The History of the Great War based on official documents by direction of the Historical Section of the Committee of Imperial Defence*. The main port of embarkation for troops was Southampton and the principal French port at which these troops disembarked from the 12th to the 23rd August was Havre since the most northerly French ports of Calais and Dunkirk appeared threatened by the German advance into Belgium. Some troops also landed at Boulogne and some sailed past Havre at the mouth of the Seine and followed the beautiful course of the river as far inland as the quays of Rouen. Sir John French, Commander-in-Chief, arrived at Havre on the 15th August. The lighter kinds of army stores were ferried across from Newhaven but it was Liverpool and Avonmouth that dealt with the heavier stores and the mechanical transport. Some of the ships from Liverpool also took frozen meat for the Army. Avonmouth was the source from which petrol, oil and such supplies were sent to meet transport requirements.

Ulster, then as now, was in some tumult and for much the same reasons as at present. The Fifth and Sixth Divisions of the British Army were in Ireland and these were to embark for France at Dublin, Queenstown and Belfast. Embark they did but at the last moment the Sixth were diverted to England. It has been said that the French were annoyed because the entire British professional army of some 150,000 men had not been sent over. Such annoyance would be a display of tactical alarm rather than of strategic wisdom. However, an additional division began to go over from Britain on the 23rd owing to the danger of the Belgian position.

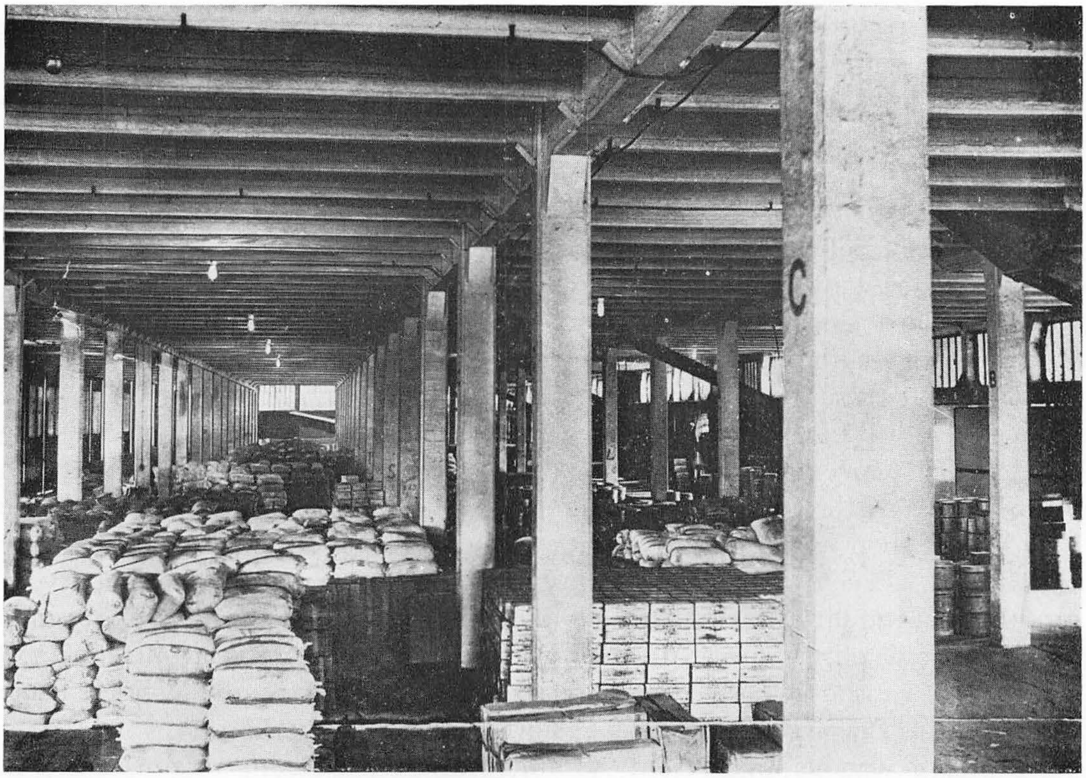
This danger was such that after the 23rd August no further stores were sent to Boulogne and the stores already there were removed. More serious was the evacuation of Havre begun on the 23rd August and completed under immense difficulties on the 16th September by which time 60,000 tons of stores, 21,000 troops and 7,000 horses had been taken by sea to new bases at St. Nazaire and Nantes on the Loire. From Havre at the mouth of the Seine the sea route to the port of St. Nazaire around the peninsulas of Normandy and of Brittany was about five hundred English miles and to Nantes another thirty-five miles up the River Loire. Despite these upheavals at their supply bases British troops crossed the River Marne on the 9th September and joined with the French in the advance. After the 16th September the stores, troops and horses were partially taken back to the bases at Havre and Rouen where transports from Britain began to make their calls again. With Calais and Dunkirk unavailable there was great congestion at the other French ports on the Atlantic and there was much improvisation to eke out the use of ship's gear and such cranes as might be available to get the heavier vehicles and equipment ashore, particularly at waterside places not accustomed to receive ships and cargoes of such size.

It is learned from *Military Operations—France and Belgium—1914* that during the five busiest days of the First Movement an average of 13 ships left this country daily with a tonnage of 52,000 tons gross which tonnage we may write down by the general proportion of eight to five to a net register tonnage of 32,000 tons. In these five days then it would appear that 65 ships of 160,000 tons net left the kingdom for France and that the average net tonnage of the ships was 2,460 tons. In those five days 28 ships with a net tonnage of a little over 55,000 tons left Avonmouth excluding the *Dido* of 3,127 tons net which left on the 18th. We now begin to see the scale of the Avonmouth operation in the context of the whole First Movement.

The Port records do not tell us how many men embarked at Avonmouth between the 12th and the 18th August to join the British Expeditionary Force. It is the bane of research into such an event when the curtain of security is so surely drawn across both local records and newspaper accounts. An indiscreet camera could bring the holder to Horfield Gaol for one night at least and photographs we now would prize were rarely or never taken. However, from the Port records of railway traffic at the Avonmouth Docks at least we learn that on the 6th August 350 soldiers came from Aldershot to transit Sheds P and S at the Royal Edward Dock, followed by 90 more on the 8th and another 60 from Farnborough on the 14th. With these 500 men there came 34 Army lorries. The fact that these lorries came by rail shows how fully the country depended upon the railways up to this time. The Army scheme drawn up in January 1913 for the First Movement provided for 600 petrol and steam vehicles each with five men passing through Avonmouth in from seven to fourteen days. The scheme stated: "As soon as each vehicle with its personnel is fitted out, it would be embarked . . .". This part of the Army scheme did not come to pass at Avonmouth except so far as the 34 Army lorries and the 117 ambulance wagons may be considered part thereof. Instead we see this amazing concourse of 778 commercial vans arriving at Avonmouth by road from near and far. Some came from as far as Lever Brothers' dock at Port Sunlight on the Mersey.

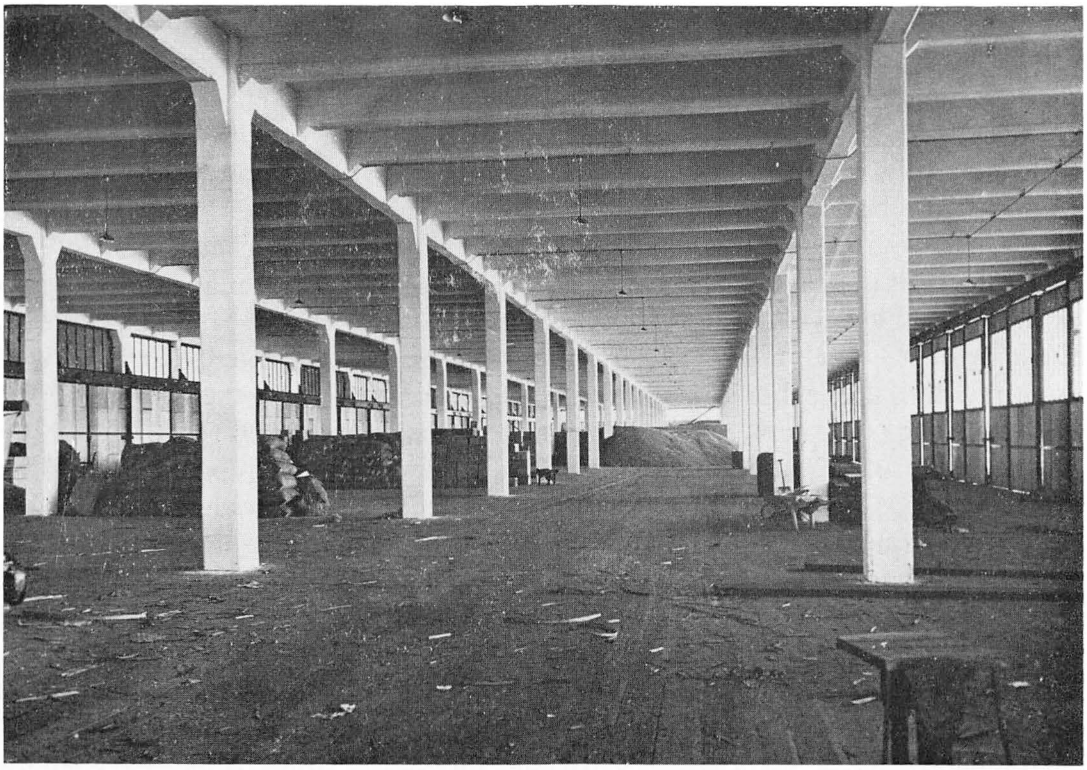
No steam wagons went from Avonmouth. Foden steam wagons were in frequent commercial use at this time. It was a sort of formidable small brother of the steam roller and the steam tractors of commerce and of farm and fairground. Spillers and Bakers owned a Foden at Redcliff until at least 1920. It ran on iron-shod wheels six or seven inches across and the flat boards behind the driving cab carried six tons of flour. Sammy Mead a dark, cropheaded character drove his Foden thunderously over Bristol cobbles at what then seemed a dangerous speed but was probably no more than twelve miles an hour. Its passing vibrated Appleby's grocery shop in Redcliff Street to such a degree that jars of jam fell from shelves into crates of eggs below. Painted yellow with red lettering the Redcliff Foden was rightly called "Yellow Peril".

Each of the arriving vans had at least one or two men aboard and many of these men elected to enlist and go with their vehicles to France. Indeed there was patriotic pressure upon them to do so. Some were content with the traditional King's shilling as a token of enlistment. Some, particularly the married men, received more. According to Lionel Herbert of the Avonmouth Traffic Manager's staff these swift volunteers and their vehicles suffered heavy losses in the broken fighting of the early days in France, but in the meantime they were billeted at Sheds O and P in the Royal Edward Dock with their suddenly found professional comrades of the British Army and with them they shared under the August sunshine the concrete "seashore" where the olive waters of the dock lapped the



The Banqueting Hall of the Heroes

It was in this transit shed, Shed O at the Royal Edward Dock, and in the adjacent and similar Shed P that men of the British Expeditionary Force en route for France were billeted on their arrival at the Docks shortly after the 4th August 1914. If it was in their stars to arrive at Shed O for embarkation they were at least fortunate to find the shed stacked with foodstuffs and a variety of cased goods somewhat as we see it here. The consequences are narrated in our text. But the troops might have arrived to find the shed as shown in the next picture. Moreover, they arrived during August heat. The concrete shed would be a chilly billet in winter, but no doubt more welcome than what some of the more fortunate among them were to face during the next four years.



TRANSIT SHED O, ROYAL EDWARD DOCK

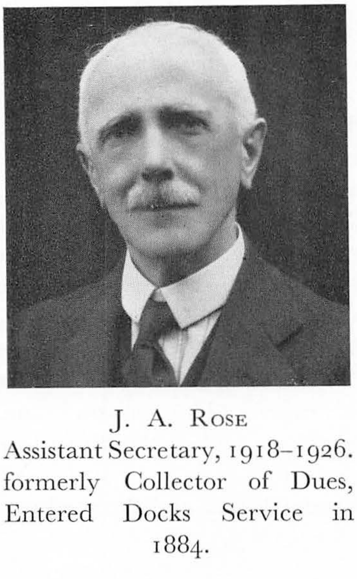
FROM THIS PHOTOGRAPH we gain a better idea of the size of this waterside ferro-concrete shed first brought into use on the 14th November 1908. The two floors had an area of 130,000 square feet and upon its flat roof were mounted six electric cranes each with a lifting capacity of a ton and a half. Cranes with this lifting capacity were more convenient and worked faster than cranes with heavier capacity. Lifting capacity grows less with increase of outreach. Upon the quay in front of the shed were three lines of railway track, two under cover of the projecting floor of the upper storey and two railway tracks at the rear of the shed were similarly under cover. Grain could be poured into a tunnel beneath the quay at Shed O so as to go upon travelling bands to the Royal Edward Granary. The adjacent Shed P was identical with Shed O.

The remaining four transit sheds at the Royal Edward Dock in 1914 had ground floors only, with adequate railway lines on the quay and at the rear. Shed Q had a floor space of about 36,000 square feet. Shed R had 34,000 square feet, Shed S 36,000 square feet and Shed T had a floor area of 25,000 square feet. The electric cranes standing on the quayside of these sheds were designed to meet varying traffic needs. Shed Q had two 3-ton cranes and four 2-ton cranes, Shed R had five 2-ton cranes and one 10-ton crane, and Shed S had one 30-cwt crane and one 10-ton crane. Shed T was designed for export and had six lines of rail on the quay for loading direct from truck to ship. Upon the quay there stood eight 2-ton cranes and one 10-ton crane. We shall see the valuable part these sheds, their cranes and railway lines took in the direct war effort.

Upon the day of this photograph of Shed O, much cargo had been cleared and the shed was about to be swept for the next cargo.

batter of the North Wall. It was not all they shared. Within the sheds were stacks of canned goods enclosed in strong white deal boxes fragile to a soldier's hungry hands. The Army commissariat had broken down under this clustering of recruited van drivers. The householders of Avonmouth generously shared their victuals with the soldiers at a time when many throughout the country were busy cramming their larders. But back again within their waterside billets in Sheds O and P the soldiers could survey the stacked cases holding pregnable tins of pears, peaches, pineapple, apricots, lambs' tongues and salmon as though lusciously awaiting their predatory palates. And at Sheds O and P in the morning Lionel Herbert, hardy sportsman and dedicated to the task of equating the Port's books with the warehouse stocks of general goods, was amazed to be confronted with a debris of split boxes and rifled tins.

The losses were counted, full boxes were made up and coopered and the stacks of goods removed elsewhere as soon as could be. Forty merchants were informed of their unwitting hospitality to troops en route to war. The cost of the feast as shown in the merchants' claims as per Shippers' invoices was £629 2s. 10d. Seven thousand empty sacks valued at £270 went with the departing warriors and no doubt this hessian bedding somewhat softened their slumbers. The Port declined liability, on the advice of the Town Clerk, but offered to assemble and pass on any claims from merchants to the War Office. No one who has pursued such a claim will be surprised to learn that the matter dragged its weary length along until 1917. At one meeting the astute and diplomatic J. A. Rose, Collector of Dues, who was being successful in at least securing payment of Port dues from the Goverment, accepted an offer of £500 in settlement, but later the Army Council on instruction from the Treasury cancelled the offer. To pursue such difficult claims legally was to throw good money after bad. As a matter of policy towards their customers the Docks Committee finally offered to make an *ex gratia* payment of half each merchant's claim. Thirty-two merchants whose claims had amounted to £407 7s. 6d. accepted the Committee's offer. Eight who had suffered losses adding up to £221 15s. 4d. refused and so for aught we know were without recompense.



J. A. Rose
Assistant Secretary, 1918–1926.
formerly Collector of Dues,
Entered Docks Service in
1884.

A brief time-table of events thus far can now be made. On Saturday evening the 1st August military stores began arriving at Avonmouth. The Government took power on Monday the 3rd to requisition ships. At mid-day on the 4th there came the War Office telegram setting up a supply depot at Avonmouth and many of the transit sheds were requisitioned that day. The ultimatum to Germany not to invade Belgium expired at 11 p.m. that night and Britain was at war. Sir Julian Corbett records that on the 6th August the Cabinet sanctioned the sending to France of four of the country's six infantry divisions and one cavalry division as well. The force to be sent numbered about 90,000 men. Transit was, however, postponed until the 9th. The main body of the British Expeditionary Force crossed the English Channel and landed in France between the 12th and the 17th August 1914. Ships to be used as transports in the First Movement began to arrive at Avonmouth from other ports on Monday the 10th. Eight transports sailed for France with their cargoes on Wednesday the 12th and the loading of the other ships went on night and day until Tuesday the 18th August when the sailing of the *Dido* ended the first phase at Avonmouth of the movement of the British Expeditionary Force over to France.

By the 18th August the First Movement had ended. As already mentioned the *Mokta* returned on that day. This steamer came in again on the 30th August and voyaged back and forth three times a month for the rest of the year. The *Artist* and the *Beethoven* came in on the 24th and again on the 31st, the *Trevilley* and the *Woodfield* returned on the 27th. By the end of the year these and other transports had made 172 overseas voyages from Avonmouth. The steamships sailing from the Port as transports at this time were no more than of medium size but this policy had the advantage of limiting the possible loss in men and equipment aboard any one ship and also of making practicable the use of such berths at French ports as had lesser depths of water than larger ships could use. Mention has been made of the light tonnages of the cargoes of motor vans taken out by ships on the First Movement. In the fatal last scene on Bosworth field of Shakespeare's *King Richard the Third*, the stricken king cries: "A horse! a horse! my kingdom for a horse!" It would have been of no avail had all the king's horses arrived an hour later. Similarly, for the army that began landing at Havre on the 12th August, a hundred vans on the 14th were worth a thousand seven days later

It takes us somewhat beyond that first outward movement to consider some figures given by Sir Archibald Hurd in his second volume of *The Merchant Navy*. From the 9th August to the 21st September 1914 there embarked from English and Irish ports 6,024 officers, 205,040 men and 62,039 horses whilst a minimum estimate for ammunition, stores and vehicles is put at 93,364 tons. To support this estimate we are told there went 3,984 tons of ammunition for guns and 2,185 tons for small arms, 31,509 tons of food and 21,364 tons of forage, 1,006,462 gallons of petrol, 25,080 tons of stores and vehicles weighing 12,162 tons. Amid all this our merchant ships were called upon to move 21,000 troops, 60,000 tons of stores and 7,000 horses from Havre to St. Nazaire and Nantes. Sir Archibald also gives the numbers of the military that sailed from the various ports up to the 21st September. From Southampton there went 176,736 men with 51,434 horses, from Avonmouth 4,605 men and from Liverpool 1,757 men. Under a thousand men went from Devonport and Newhaven whilst 26,747 men with 10,184 horses moved through the Irish ports of Dublin, Belfast and Queenstown.

It is clear that no great concourse of troops passed through the Avonmouth Docks for France during the embarkation from the 10th to the 18th August since that was the part allotted to the Port of Southampton. At Avonmouth the only record found is of the 500 soldiers who came directly into the docks by rail between the 6th and the 14th August. How many recruits went with their vans we do not know nor is there any record of Army units who may have come to the Avonmouth railway station outside the Docks and marched into the transit sheds for embarkation. The nearest we can get to a reliable figure is that of 4,605 men given by Sir Archibald Hurd as the number of military that sailed from Avonmouth up to the 21st September. Stone and Wells at page 204 of *Bristol and the Great War, 1914–1919* state that up to the end of October 1919 there embarked and disembarked at the Port 1,333 personnel on war service, but for once in a while their figure is inaccurate since as will yet be recorded there was a notable arrival at the Royal Edward Dock of 1,248 soldiers on the 18th October 1914. Despite Port research we are unable to record how many soldiers and recruits left Avonmouth Docks for France during those crucial days of the First Movement of the British Expeditionary Force since between the 18th August, the last day of the Movement, and the 21st September, the date mentioned by Sir Archibald, many men may have left aboard the numerous transports carrying war material from Avonmouth to France.

History records many notable crossings of the seas by armies in time of war, but until those early days of August 1914 the world had seen nothing comparable in size and speed to match the crossing of the British Army into France. Against so powerful a naval adversary as Germany only the presence at battle stations of the British Navy ensured a safe crossing and only a professional army of great skill could have moved so swiftly in response to the will of government and people. This said, it detracts nothing to say that a remarkable aspect of those martial events was both the efficiency and the improvisation that made possible in so short a time the sudden movement of army and equipment through a few mercantile ports to go aboard such merchant shipping as came readily to hand.

To lessen the risk of many losses at one time these merchant ships bound for France sailed singly and not in convoy. They sailed without escort. Not a ship or a man was lost by enemy action during the First Movement. The Royal Navy was fully extended elsewhere and reliance had to be placed on the more distant defence given by the covering squadrons, particularly that which commanded the Straits of Dover. Frigates and more frigates had long ago been Nelson's need. It was to be so from 1914 to 1918.

III

1914:
The Golden Key

THOSE of us with tidy minds may think that the Committee of Imperial Defence, who had within the previous two or three years pigeon-holed the Royal Edward Dock for a prominent part in the First Movement, should also have organised in advance a supply of ships for this vital occasion. The Committee may have had some such system, but it rather looks not. A little practical consideration however will hardly justify a scheme for the earmarking of suitable ships, let alone the lying up or reservation of ships in home waters for such a contingency. A merchant ship, particularly the versatile tramp, might be in any part of the busy oceans when need arose.

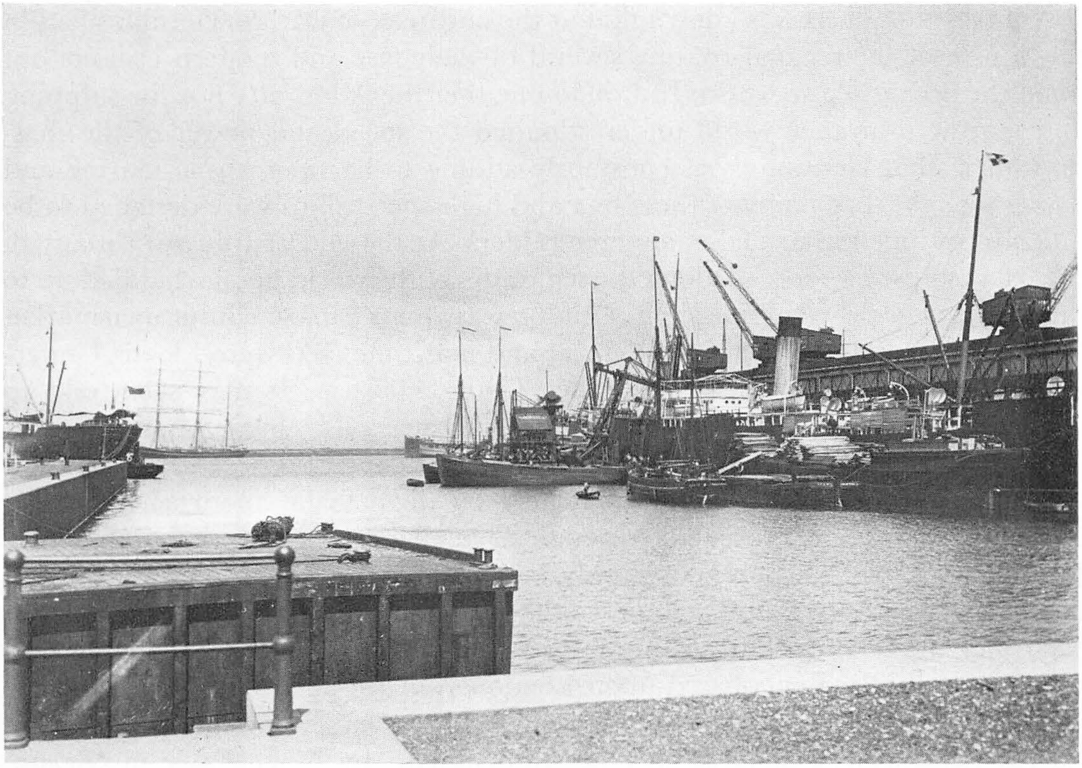
Lloyd's Register in 1914 showed that the United Kingdom with the dominions and colonies owned steamships totalling nearly twelve and a half million tons net register out of a world steam tonnage of twenty-six million tons. Germany came second with three million tons. This compares with a world tonnage of steamships of under fourteen million tons in 1901 when the United Kingdom owned some seven and a half million tons and Germany the next largest owner had one and a third million tons.

There came into the United Kingdom in 1913 imports estimated at about fifty-five million tons. The country was the world's greatest general warehouse and our exports and re-exports were about one hundred million tons of which King Coal weighed out seventy-six million tons. So it would seem that about one hundred and fifty million tons of foreign trade went through our ports that year. To carry these traffics about 47,000 laden ships came into and about 61,000 laden ships went out from our ports. British ships carried some two-thirds of this trade and in an average year shortly before the war some 26,000 of our ships would come in laden from abroad and some 31,000 of our ships would leave with cargo. Accordingly upon an average day at that time about seventy British ships with cargo could be expected to enter our ports from abroad while eighty such would be outward bound. Thus we see that just before the war about one hundred and fifty laden British ships would each day be moving in or out of our ports upon the nation's foreign trade.

Ships remain in port loading, unloading or lying up for varying lengths of time. For this reason it would take considerable research upon the daily shipping newspapers of the time of which *Lloyd's List* was foremost then as now, to decide how many British ships were within British ports or in home waters in the early days of August 1914. If the inward and outward port figure of one hundred and fifty ships a day is multiplied by twenty which allows for three days in home waters and seventeen days for unloading, loading and coaling, it is clear that H.M. Government could rely upon being able to requisition an ample number of ships to carry the British Expeditionary Force with stores and equipment over the short sea route from British ports to Havre and adjacent French ports. In the previous chapter we saw that on the five busiest days of the cross-Channel movement sixty-five transports left our shores for France so that even allowing for other transports being used in subsidiary movements around the coast it looks as if one hundred ships would have been ample for the whole First Movement. Incidentally, seven of the Avonmouth ships were built before 1899, eighteen between 1901 and 1910 and eight thereafter. The oldest was the Bristol Steam Navigation's *Echo* of 570 tons net built by R. Dixon and Company at Middlesbrough in 1891.

Steamships were of course the order of the day for this ferrying operation, but in any event sailing ships had by now sadly declined in numbers. The British merchant fleet, ocean-going and coastwise, on the 1st July 1914 numbered 8,587 steamers and only 653 sailing vessels and of the steamers 4,068 were ocean-going ships of 1,000 tons net register or over. The larger sailing ships of the time mostly carried cargoes in bulk such as grain, coal or Chilean nitrate where speed was not the essence of the contract.

The Royal Navy had by early August closed to enemy surface shipping the southern entrance to the North Sea and the Grand Fleet under the command of Sir John Jellicoe was also ready at or near their northern battle stations to repel any full-scale sortie by the German High Seas Fleet. There was however much more than this for the Royal Navy to do. From John o'Groats in Caithness there is a distance of some three hundred miles of often rough and stormy sea before to the east the Norway shore is sighted. This gap had to be made secure against the fast and powerful raiders that might move from German harbours and seek to go north of these islands by the North-about Passage to attack our merchantmen not only along Atlantic routes but also upon the Indian and the Pacific oceans. There could be no regular use of this route by raiders without such a successful battle or covering movement as the German fleet seemed unwilling to risk, but for British cruisers and destroyers there now began in northern waters the long vigils that the frigates of Nelson had known along the coasts of Napoleonic France. Fortunately the strongly held Orkneys and Shetlands swung north-east from the point of Scotland in a screen two hundred miles long and this reduced to a similar distance the gap between Lerwick in the Shetlands and the Norwegian port of Bergen. Yet there was always the risk of a fast armed raider slipping through these icy seas under cover of storm or night.



ROYAL EDWARD DOCK

THIS IS ONE OF SEVERAL PHOTOGRAPHS taken around the Royal Edward Dock in July 1910. We are looking northwards from the coping of the entrance to the Junction Cut towards a sailing vessel moored near Shed T over six hundred yards distant. Upon our right at Shed O is moored the Dominion Line's 1892 *Turcoman,* 3,683 tons net and 445 feet in length, arrived from Montreal with over 6,000 tons of Canadian grain and produce. One of the two Mitchell grain elevators, owned by the stevedores C. J. King & Sons Ltd. and capable of unloading by revolving buckets up to 120 tons of grain an hour, is working on the cargo. The steamer is surrounded by attendant coasters and barges.

Away at Shed T is the steel barque *Conway Castle,* 1,591 tons net and 258 feet long, built at Sunderland in 1893. The *Conway Castle* arrived from the Pacific with a cargo of nitrates from Talcahuano in Chile on the 28th July 1910, the day before this photograph was taken by Bromhead of Clifton. A sailing vessel was specifically termed a "ship" when her three masts, foremast, mainmast and mizzenmast, were square-rigged. We shall shortly see such a ship, the *Hyderabad,* but meanwhile we observe that the *Conway Castle* was a barque with only the foremast and the mainmast square-rigged while the mizzenmast is schooner-rigged, that is with a fore-and-aft rig. On the 27th February 1915 the *Conway Castle* was the fourth and last victim of the German light cruiser *Dresden* when captured and scuttled 560 miles south-west of the Chilean port of Valparaiso. Within a few pages we shall read of the impending fate of the *Dresden.*

Nor was this all. It was known that at the outbreak of war the Germans had in the course of their naval routine several of their fast and modern cruisers out upon the oceans of the world. In London neither the Admiralty nor the shipping and marine insurance world underestimated the speed and power of the first-rate liners that Germany was constantly adding to her mercantile marine and it was thought that many of these fine and high-speed ships were designed to be quickly equipped as armed commerce raiders. At the end of July 1914 many of these fast ships were spread along the sea routes of the world upon what had up to then been their peaceful occasions. London was and is a marine insurance market for the world and of none of these naval and maritime risks were Lloyds Underwriters and the Shipowners' Insurance Clubs unaware. It may seem odd to interpose the August apprehensions of marine insurers. It is in fact most relevant.

At a time when to many people all financial operations of great size are suspect and when to show a profit is held by them to be about as wicked as trying to whack a large camel through a small postern gate into some new Jerusalem, it may to such people only be a sign of the evil of the times to say that in 1914 prosperity and commerce relied not only upon the industry and the energy of the country but also upon the essential support of the banking and insurance establishments based upon London. We are now beginning to take a look at one of the quiet keys, a golden key, to victory. Some brief and simple figures have been dredged from official documents by A. C. Fayle in *Seaborne Trade.*

The nation's imports for home use in 1911, 1912 and 1913 had an average cost of £623 million a year. In those years the Port's imports had an average value of £17 million a year. Of the nation's imports, £263 million was paid for our food, drink and tobacco and £205 million for the raw materials to be used in our industries. To pay for this we exported on average our own produce and manufactures to the value of £489 million a year. At the Port export values averaged £4 million a year. The adverse gap in the nation's trade was made up by interest from our investments abroad and by the money we received from abroad for services rendered including our freight charges as the world's greatest sea carrier. These figures are not given to shine a light on any complex problems of finance but only to show the vastness of the sums involved. Both manufacturers and merchants like to rely upon there being ample stocks in the country for their purposes. Shortage of stocks not only means a likelihood of shortage in shops and short time in factories but also the likelihood of higher prices being required from those who must buy. Even in peacetime the nation must not be low in stocks since the overseas seller is quick to try to take his reward from a scarcity position.

As long ago as 1905 a Royal Commission had made a report entitled *Supply of Food and Raw Materials in Time of War.* The period within which the normal stock of certain imports would be used up was given as seven months for cotton, two to three months for wool, one to two months for iron ore, two to eight months for soft wood, six months for petroleum and one to two months for rubber. No doubt these stock periods had changed somewhat by 1914, petroleum for example, but these available figures are enough to give us some sense of proportion. It is significant to note that half the iron ore needed for smelting our pig iron, that vital sinew of war, came from abroad in 1913.

The majority of manufacturers in 1914 did not buy their raw materials direct from abroad nor did retailers so buy the overseas produce to be sold in their shops. Such commodities were bought for the most part in wholesale quantities from those specialised importers, merchants and brokers who formed at recognised places the market for a particular class of commodity. On a smaller scale purchases could be made from a local factor who had already had recourse to a member of the market. Buying abroad was a tricky business both as to price, quality, quantity and the method and time of delivery. Money was both quickly made and quickly lost in overseas transactions and the risks were best left to those on the market with special knowledge and long experience.

How much stock to hold was a problem for corner shop and for large manufacturer alike. Except for those who buy for cash in the morning what they sell for cash in the afternoon, stock is money locked up. During the time it is held stock earns nothing, it eats the interest the outlay could otherwise earn and if not kept on the premises but stored in some warehouse awaiting the buyer's order to deliver, then stock also consumes the sum of the warehouseman's charges. Why should we pay in time of settled prices to pack our premises with stock when with a fair supply in hand we know we can upon short notice have more sent in? There was little need to overstock in the Spring of 1914 when international skies appeared almost cloudless and the purchaser could feel assured that the market held ample stocks of the commodities he was accustomed to use.

With British imports costing over £600 million a year and with commodity stocks enough to last on broad average for some three months, it would appear that the importers, merchants and brokers of the commodity markets were holding stocks for home use to the value of about £150 million. Furthermore, as the great emporium of the world the commodity markets of the kingdom could well be holding stocks of imported produce worth another £25 million to re-export to customers abroad to the extent of £100 million a year. Then as if the burden of the £175 millions' worth of stocks held in this country were not enough, the market must on any date have purchased hundreds of cargoes already on voyage to our ports and also contracted heavily for goods which had not yet left the country of origin. Whatever sum we choose to name on the evidence available as the probable total of all these market holdings, it had for long been too vast to be paid at or near the time of purchase out of the cash resources of those merchants and traders who constituted the commodity markets of this country.

We can now appreciate the extent of the 1914 flow into this country of vast quantities of goods from the four corners of the world until at last in usable form the family quantities found their place in our homes. We did not keep in our larders stocks of such size as to go stale before eaten or used. The corner shop, the main street store did not plan to hold stocks beyond the likelihood of early sale, the local factor was not going to stack his warehouse as to sustain a siege. All of us in greater or less degree depended upon the commodity markets to meet our needs in due season.

There was clearly quite a length of time between the date of payment to an overseas seller upon the shipment of his goods and the date upon which a purchaser in Britain or abroad paid for goods received by him from market stocks. This financial gap was bridged by loans made by the banks and the finance houses of the City of London. We need not here go into the credit complexities by which these loans were arranged except to say that long before 1914 such loans had come to provide the essential means by which international trade was able to proceed on a world-wide scale. The security given by a merchant for the loan was the Bill of Lading which is both a receipt for the goods signed by the master of the ship and also a contract for the carriage of the goods to a port or ports named. The lawful holder of the Bill of Lading is, until he transfers his right in the goods, entitled to delivery of his merchandise at the port of arrival. But, and here is our concern, bankers making a loan against the security of a Bill of Lading did not need to know their Shakespeare to be aware "But ships are but boards, sailors but men: there be land-rats and water-rats, land-thieves and water-thieves,—I mean pirates,—and then there is the peril of waters, winds and rocks".

Moreover, in the resounding and customary words of the Charter-party, the agreement whereby a shipowner placed his ship or part of it at the disposal of a merchant for the conveyance of goods, "The act of God, the King's enemies, restraint of princes and rulers, fire, and all and every other dangers and accidents of the seas, rivers, and navigation, of what nature and kind soever, throughout the voyage" were excepted from the liability of the shipowner. These words of sombre beauty are no less than an accretion since antiquity of the perils of the sea. A Bill of Lading is the appropriate contract document where the shipowner does not put his ship at the disposal of the charterer but accepts the goods of several merchants for carriage to a named port or ports, but for such merchants the Bill of Lading contained the uncomfortable exceptions of "the act of God, the King's enemies, fire, barratry of the master and crew, and all and every other dangers and accidents of the seas, rivers, and navigation of whatever kind or nature soever". To the lender of money, therefore, the Bill of Lading and other documents were not enough unless accompanied by a marine insurance policy covering the goods against loss or damage in course of transit.

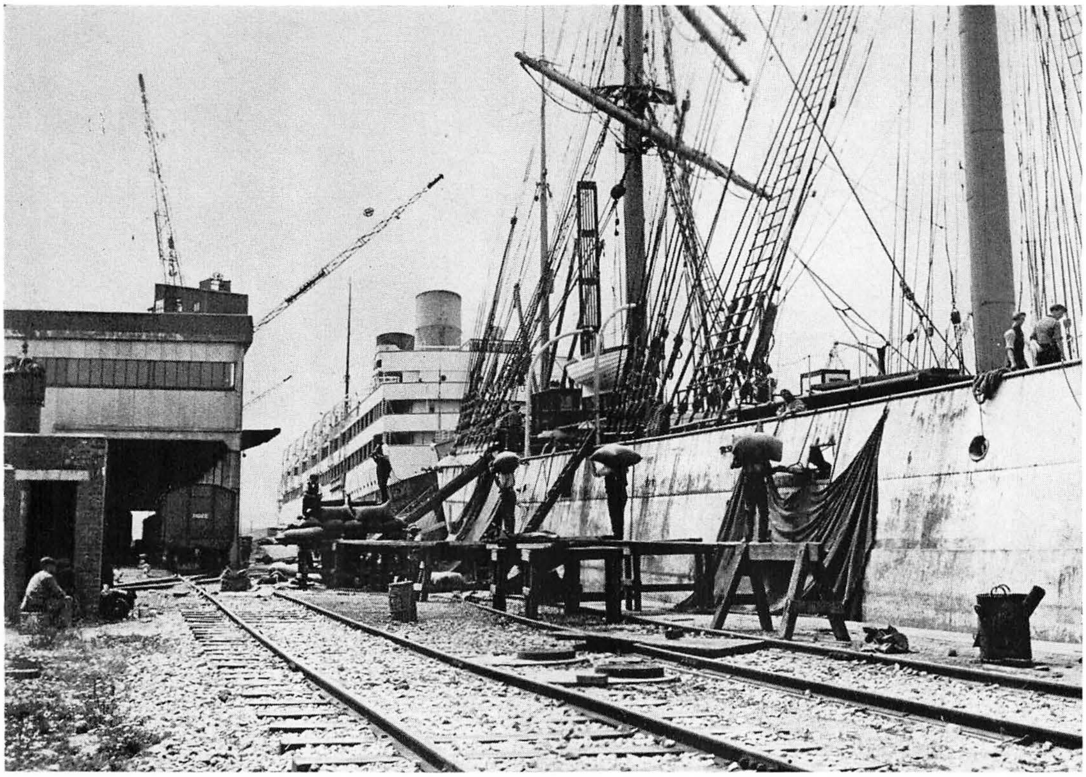
The incident which brought about the tension in Europe during the month of July 1914 was the assassination of the Austrian Archduke Francis Ferdinand at Sarajevo in Bosnia on the 28th June. Throughout July the possibility of war between Austria and Serbia gradually became more likely. Towards the end of July insurance against war risks on cargoes began to be sought on the London marine insurance market but even as late as Monday the 27th July the risk of Britain being involved in a general war was not such as to require a higher rate than 5s. per cent for cargoes in British ships. From the 29th July with Austria's declaration of war on Serbia the many and varying rates for marine risks rose sharply until by the end of the month the rate of £3 per cent was being paid on cargoes in British ships coming directly to this country. According to Fayle cargoes in French and Russian ships had to pay 5 per cent and cargo in German and Italian ships 10 per cent per voyage. The art of insurance is the assessment of risk in the light of experience or at least by means of some known facts, but even at the rates mentioned the marine underwriters knew themselves to be venturing into the unknown with no lamp of experience to lighten the darkening way. A generation inured to inflation can judge the effect on the cost of living of a £3 per cent war risk premium on inward cargoes to these islands. By the 31st July the German shipping companies were already cabling their ships to remain in or return to neutral harbours, but there was at yet no noticeable cancellation of sailings by British owners and the heavy war risk premiums were being paid. To marine insurers the British August Bank Holiday beginning on Saturday the 1st came as a moratorium but with Germany declaring war against France on Monday the 3rd and demanding of Belgium the right of passage there was no holiday pause upon the catastrophic slopes to war.

British business, therefore, reassembled to massive problems on the morning of Tuesday the 4th August. Germany and Austria were opposing France and Russia in war. The immense human tragedy is not for the moment our concern. On the mainland of Europe the intricate web of trade and finance by means of which the mass of the population were able to live was being torn down. Britain was not yet at war, her ultimatum to Germany over the threat to Belgium did not expire until an hour before midnight on the night of the 4th August. Britain's prosperity and strength were built on international trade. Much of this trade was already at an end, the Baltic was closed to her ships and the Black Sea could be. To the nation, an island nation, the German Navy was as yet an unresolved threat. During Tuesday the 4th, bank business was suspended, the Stock Exchange remained closed, many exports were on the prohibited list and to cover the war risk on cargoes the premiums had risen to 10 or 15 per cent. These were clearly the symptoms of a collapse in that overseas trade by which we lived. Even the chartering of ships at North American ports had ceased and ships ready to sail with cargo aboard could not sail because marine insurance rates were so high.

It was at this point that the Government intervened with the announcement of their War Risk Insurance Scheme. The threat of such circumstances upon the outbreak of war had for a long time past been studied by a committee representing the Government and shipping, trade and insurance experts. The committee's report earlier in the year was actually being considered by the Government when the July crisis arose. On the 4th August Lloyd George announced a scheme to come into force at once. The Government would join with the Shipowners' Insurance Clubs in covering war risks on British ships. The Government would take 80 per cent and the Shipowners' Clubs and other associations would take 20 per cent of both risks and premiums. The rates of premium as fixed from time to time would be not less than 1 per cent nor more than 5 per cent. For the insurance of cargoes against war risks a State Insurance Office would be set up, and in fact opened the next day, with rates of premium falling within the same limits as on ships. The opening premiums on ships were at 1¼ per cent for the single trip or 2½ per cent for the round voyage and on cargoes coming to this country 5 per cent. Amid the rising chaos, confidence was at once restored to the immense complex of the British mercantile sphere. All that was needed now behind the screen of the British Navy and upon the high seas of the world was the determination of the shipowners to send their ships and the courage of British seamen to sail them. In perils known and graver perils then unknown the British Mercantile Marine never failed the nation and throughout the coming years of colossal damage along the sea routes the War Insurance schemes continued to repay those material losses which would otherwise have brought almost to a halt the sea flow to these islands of food and of those things wherewith alone the war could by valour be won.

A key, a quiet key, had thus been found to unlock the first door that could have barred the way to victory.

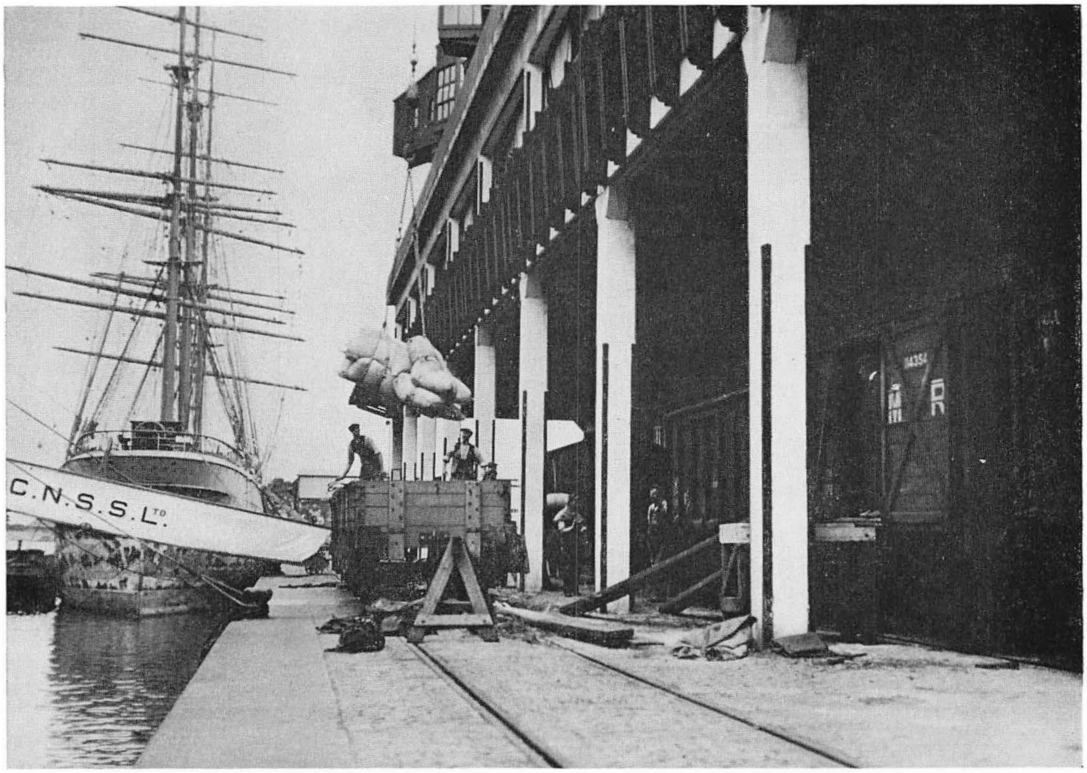
Upon his tortuous pilgrimage to the Celestial City, Christian as forewarned by Mistrust and Timorous, two travellers in rapid reverse, "espied two lions in the way", writes John Bunyan, but Watchful perceiving that Christian made a halt cried unto him "Fear not the lions, for they are chained". Can it be that marine insurers in those first days of August were "frighted with the sight of lions"? The German High Seas Fleet was certainly held on a chain stretching for a few nautical miles from the eastern coast of the North Sea, but afloat upon the Pacific, the Atlantic and the Indian Oceans were the German cruisers *Scharnhorst* and *Gneisenau*, the light cruisers *Dresden*, *Emden*, *Karlsruhe*, *Königsberg*, *Leipzig* and *Nürnberg*. Also at large were three Norddeutscher Lloyd liners



THE S.S. *Royal Edward* AND THE S.V. *Hyderabad*

ON THE 14TH JULY 1910 the *Royal George* arrived at the Royal Edward Dock and was followed on the 28th July by the *Royal Edward* on the regular summer service of the Canadian Northern Steamships Ltd. between Avonmouth and Montreal. This is another of the excellent photographs taken by Bromhead of Clifton on the 29th July. We are looking at the north end of Shed P during the discharge by roof cranes of the *Royal Edward's* cargo to which the utmost despatch was invariably given in order to keep the liner on schedule.

The discharge of the sailing ship *Hyderabad* was taking place in a more casual way. The *Hyderabad* was a steel ship built in 1892 at the shipyard of W. Hamilton & Co. at Port Glasgow. Of 2,195 tons gross and 2,110 tons net the ship was 276 feet in length, 42 feet in breadth with a depth of hold of 24 feet. In 1910 she was owned by Henry Buchanan of Greenock. The *Hyderabad* arrived from Adelaide on the 26th June 1910 with a cargo of Australian grain. On the 21st June there began the 1910 dock strike that continued on and off until the last week in July. The *Hyderabad* is being discharged by ship's gear. The operations ashore are confused and obscure with the sacks of grain apparently being piled up until trucks can be shunted through the lines in front of Shed P. The three static sack-bearers on the trestles remind us of John Milton's immortal line "They also serve who only stand and wait". Above them rears the square-rigged mizzenmast of the *Hyderabad*.



THE S.V. *Hyderabad*

THE VIEW IS NORTHWARDS from the quayside at Shed P. A gangway to the *Royal Edward* rests on the quay and at the open berth north of the shed the *Hyderabad* is moored. At Shed P a sling of bag cargo is being lowered by crane into trucks, possibly for transfer into the railway vans upon the line under the shed verandah. The preferential discharge of the liner's cargo is thus delaying the unloading of the *Hyderabad's* cargo.

Too often a sailing ship's next voyage had yet to be arranged. Moreover, the contract of carriage with the shipowner could provide for a low tonnage to be unloaded each day at port of arrival so that receiving merchants had an undue number of days before incurring warehousing charges ashore while sales of cargo were effected. In particular, the slow pace set down by the Bristol Discharge Clause in such contracts was, with the arrival of mechanical grain elevators and moving grain bands to granaries, to become onerous to the modernising Port Authority. In April, May, June and July 1910 only one large sailing vessel arrived at the Port each month, three from Australia and one from Chile.

equipped as armed merchant liners. These were the *Kaiser Wilhelm der Grosse* of 13,952 tons gross with the high speed of 22·5 knots, the *Kronprinz Wilhelm*, out from New York on the 3rd August, of 14,908 tons gross and with a speed of 23 knots, and the *Prince Eitel Friedrich* of 8,897 tons gross with a speed of 15 knots, a liner equipped with arms at the German naval base of Tsingtao in North China. Other German liners in neutral harbours could well be regarded with suspicion and there were also on the high seas a number of German merchantmen designed to act as supply ships to the commerce raiders. Of the navies of the world only the British Navy could spare cruisers enough to hope eventually to track down and sink these many dangers to the British merchant fleet and, as was soon to be shown, to the ships of all mercantile powers.

The German Armed Merchant Cruiser *Kaiser Wilhelm der Grosse* was found and sunk by the light cruiser *Highflyer* off Spanish West Africa on the 26th August with three German ships trying to put 8,000 tons of coal aboard her. The need for coal and the British control of coaling stations was a critical problem for these raiders. In October the cruiser *Königsberg* was found up an East African river by the light cruiser *Chatham*, was then blocked in by sinking a collier in November and later destroyed at leisure. In November the cruiser *Karlsruhe* blew up from cause unknown in the South Atlantic on a fine day while the ship's band was playing. The cruiser *Emden* was destroyed in the Indian Ocean and on the 8th December Admiral von Spee's flagship the cruiser *Scharnhorst* and the cruisers *Gneisenau*, *Leipzig* and *Nürnberg* were sunk off South America at the Battle of the Falklands. The real danger to our far sea routes from surface raiders had now mostly been swept away but it was not until the 14th March that the cruiser *Dresden* was surprised at anchor and blew herself up at the South Pacific island of Juan Fernandez. It was here that long ago Andrew Selkirk was marooned and, it is said, on his rescue and return to Bristol inspired Daniel Defoe over some alehouse oak to think of *Robinson Crusoe*. If this be so, *Robinson Crusoe*, *Treasure Island* and *The Sun is my Undoing* is a fair literary yield for Bristol Harbour. Even so none need think the dramatic scene has been overworked.

Two of the German armed merchant cruisers were the only ones of the eleven commerce raiders to escape destruction. On the 11th March 1915 the *Prince Eitel Friedrich* arrived at Newport News, Virginia, and while British cruisers waited offshore was interned. So was the *Kronprinz Wilhelm* that arrived there in April.

By the 31st January 1915 the war had lasted all but six months and by then these surface raiders had sunk or captured 47 British steamers of a gross tonnage of 218,000 tons. That new weapon in war's armoury, the submarine, had sunk 10 steamers of 20,000 tons gross and 14 British steamers of 38,000 tons had been destroyed by mines. These 71 steamers of 276,000 tons were exceeded in number only by the 73 British steamers of a gross tonnage of 170,000 tons detained in German ports at the outbreak of war. In the first six months then Britain had lost 144 steamers of 446,000 tons gross together with 7 sailing ships of 5,000 tons net. In similar time Germany had lost 281 steamers, sunk, captured or detained, of 794,000 tons gross and 64 sailing ships of 71,000 tons net. More damaging still Germany had 623 steamers of 2,480,000 tons gross and 100 sailing ships of 199,000 tons net which were either blockaded in home ports or were sheltering abroad and likely to remain there.

This British loss of steamships to the extent of 446,000 tons gross in the first six months of the war had been rather more than made good by the building of new steamships but the merchant shipping of the country was increasingly being taken away from trade by the requisitioning of ships for war purposes. The loss of 446,000 tons gross or about 280,000 tons net of steam shipping has to be kept in proportion by remembering that the United Kingdom and dominions owned about 12,500,000 tons net under steam in 1914 and that the loss of some 2¼ per cent was not nearly so serious as the high marine insurance rates before the actual outbreak of war and before the outcome of British naval movements was known and the State Insurance scheme introduced. The insurance rates during this period reflect the growing confidence in the shipping situation. It will be remembered that the opening premiums on shipping under the State scheme were at 1¼ per cent for the single trip or 2½ per cent for the round voyage and 5 per cent on inward cargoes. By about the middle of August the State Office reduced the insurance rate on cargoes to 3 per cent. Marine underwriters were now quoting lower rates such as 30/– per cent for North Atlantic cargoes, 20/– per cent for South American cargoes and for cargoes in coasters at rates even lower than this. By September the State Insurance Office had reduced the insurance of British ships to 1 per cent for the single voyage and 2 per cent for the round trip; by the end of this month the market rate on North Atlantic cargoes was down to 10/– per cent. At the end of 1914 the State Office rate for the insurance of cargoes to or from Britain was down to £1 per cent and on the marine insurance market the underwriters were charging less than this for cargoes to or from certain destinations.

Sea power had been secured by the British Navy without a major sea fight between the great fleets. By sea power the British Army had crossed to France. By sea power the German merchant fleet had been denied the ocean routes available to British shipping. In 1914 sea power lay in the strength of fleets upon the surface of the sea. The struggle was soon to pass into dimensions below the surface of the sea but in whatever dimensions the struggle might become decisive, the ultimate aim of sea power was to pass men and goods across the oceans if not in safety then at least without disastrous loss. By the 31st December 1914 this aim had been achieved except for the closure of the Baltic Sea and the Black Sea. Against this background of the apparent containment of enemy naval forces the events at the Port of Bristol are now to be considered.

IV

1914:
At the Port:
The First Five Months of War

FROM 1900 to 1914 the trade of the Port had gone from strength to strength. When the Port year ended on the 30th April 1914 it could be seen that the total tonnage of ships arriving from overseas was 85 per cent greater than in the Port year 1900 and that the tonnage of coastwise arrivals had increased by nearly two-fifths. Imports from overseas had risen by nearly a third and coastwise imports were almost half as large again as in 1900. Exports going abroad from the Port had increased nearly three times and exports coastwise were about a quarter more than the 1900 figure. Those who would like exact figures will find them tabled in the Appendix. The cynic could point out that even the rate-in-aid, that subsidy to the Port from the City, had gone up as the late Alderman Proctor Baker had foretold back in the nineteenth century. This was indeed true since the £26,000 so vociferously afforded by the citizens to the Dock cause in 1900 had risen to £80,000 in 1907, to the record sums of £154,000 in each of the years 1910 and 1911 since when it had ebbed by the Port year 1914 to £122,500. The rise in the rate-in-aid was the result of the beginning of the payment of interest, etc. on the sum of £2,661,726 which the 1914 accounts showed as the cost of the Royal Edward Dock. Ross-Johnson might have said, as he once told the writer, "You cannot make omelettes without cracking eggs", to which the ratepayer might have replied that whoever ate the omelettes the ratepayers did not. That the Port was the greatest asset in Bristol's prosperity could hardly be shown in the Docks Balance Sheet, to which the ratepayer could reply that the total capital expenditure of £6,351,660 on the entire Port up to the 30th April 1914 certainly did appear therein. Arguments of this kind have gone back and forth since 1803 and will not be ended, nor are intended to be ended, by anything written here.

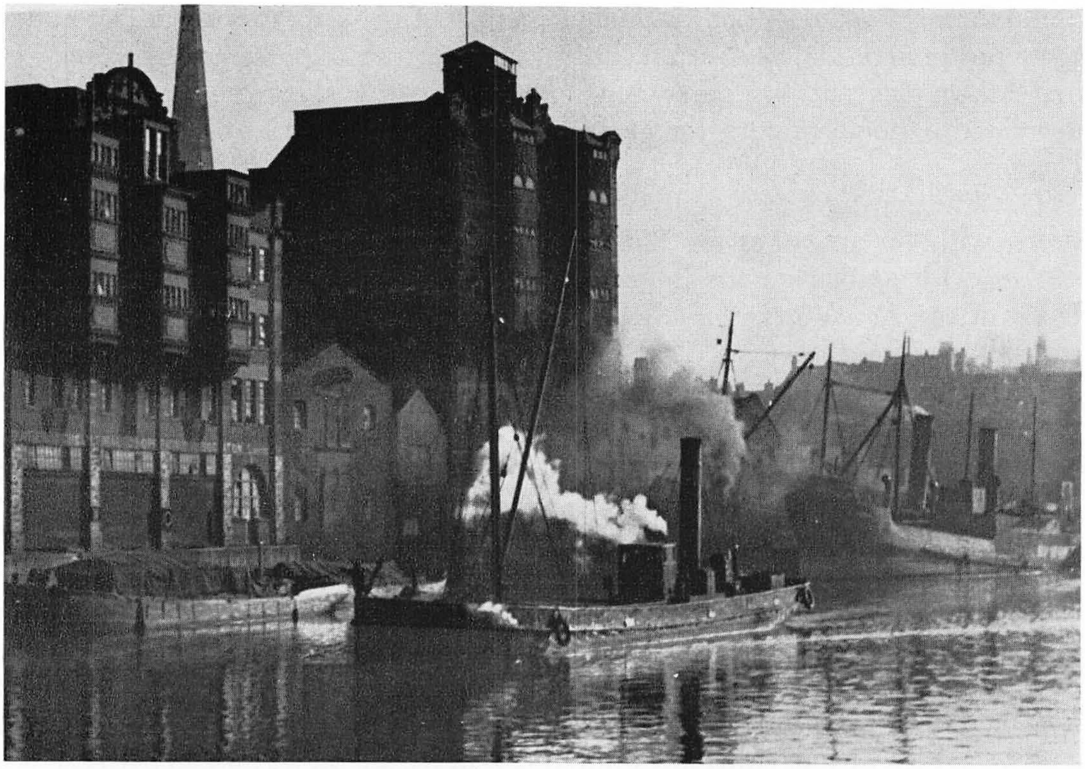
The new Port year in 1914 began as usual on May Day when the fervent ones of Labour were accustomed to bear in procession towards some public park banners proclaiming their affiliations. For the first three months of the Port's new year, from the 1st May until the 31st July 1914, the trade figures at the Port bore a calm similarity to those for the same three months in 1913. The events of early August 1914 ended all that and further similarity to the trade figures of 1913 vanished even as unknown to us then so many of the calm qualities of the English way of life were so soon to be dispelled. In the alarming month of August 1914 the country's imports from abroad fell by about 30 per cent from the imports of the previous August. At the Port in August 1914 overseas imports fell by only 20 per cent as compared with the month a year before. The first September of the war saw a decline of 25 per cent in the nation's inflow and a similar decline took place in the overseas imports of the Port. There was some recovery in the country's imports during the last three months of 1914. At the Port in the last five months of 1913 there had come from overseas 869,000 tons of cargo. In the last five months of 1914 only 771,000 tons arrived, a decline of over 11 per cent. All this was but a foretaste of stringent times to come. Exports abroad before the war were no more than about one-sixth of Bristol's import trade but as trade tables in the Appendix show, outward cargo had grown to 317,000 tons in the last Port year before the war. From August to December 1913 overseas exports had amounted to 132,000 tons. In the five war months of 1914 commercial cargo outward declined to 73,000 tons to which can be added 36,000 tons of war traffic sent overseas.

The requisition by the Government of merchant ships for the movement in August of the British Expeditionary Force to France was but the beginning of such practice. By the end of 1914 about 20 per cent of British steamers had been withdrawn from commerce for war purposes. Worse than this, the arrival of ships with overseas cargo at all ports in the United Kingdom was 30 per cent less in the first five months of war as compared with the last five months of 1913. The ships remaining in commerce must needs carry more and in general did so, a matter of no dismay to the shipowner for whom the ratio of the weight of cargo to net tonnage often shows the likelihood of profit or of loss. Many a ship from overseas would as normal practice call at more than one West coast port in the course of unloading a single cargo and this part cargo discharge at the Port of Bristol resulted, as more or less at other ports, in the weight of cargo unloaded at the Port appearing less than the steamer could carry when fully loaded with suitable cargo.

The Committee of Imperial Defence had told Ross-Johnson in pre-war discussions that in the event of war the Avonmouth Docks would have to deal with the loading of outward bound transports and also receive an increased proportion of the country's imports in the event of the closing or restriction of the ports upon the North Sea. British naval dispositions, and in particular the skill and bravery of those aboard the minesweepers in keeping a swept channel up the East Coast, had kept the eastern ports open and usable to a far greater degree than expected. Nevertheless, in the last five months of 1914 there arrived at the Port either direct from overseas or coastwise to load for overseas, shipping including transports amounting to 1,145,000 tons net as compared with the useful figure of 758,000 tons for the five months of 1913. By the end of December 1914 the preferential and rapid loading of 172 transports of 501,000 tons net had taken place at the outer docks and with an increased proportion of a decreased national import, the great war effort of the men at the Port becomes clear.

The liner voyages between Avonmouth and Montreal ended for the *Royal George* with her arrival at the Port on the 18th October 1914 and for the *Royal Edward* with arrival on the following day. The entry into the Royal Edward Dock of the *Royal George* on the morning of Sunday the 18th was a martial occasion rousing the villagers of Avonmouth with much blowing of bugles as a greeting from a force of 1,248 men of the Canadian Army. Among the Canadians was Tommy Spoors, a former Bristolian who after his war service was to return to Bristol and join with Corbett, Quick and Pickles in forming a brilliant three-quarter line for Bristol Rugby Club. We remember here Canada's generosity to Britain at this time. The Canadian Government sent a million 98-lb bags of flour, Ontario gave a quarter of a million bags worth 700,000 dollars, Quebec 4 million pounds of cheese and Nova Scotia 100,000 tons of coal. All this was consigned to the order of the President of the Board of Trade for relief of need. On these October arrivals the *Royal George* brought 5,602 bags and the *Royal Edward* brought 3,179 bags of flour. By the 10th November flour had arrived at the Port by various ships including the White Star *Georgic*, 6,570 net and 559 feet in length, to complete the Port's quota of 100,000 bags. The British Government sent 4,000 tons of flour to Rotterdam for the Belgian Commission for Relief and in mid-January Palgrave Murphy's *City of Brussels* took 24,000 bags from the Port while her sister ship *City of Stockholm* took 13,000 bags of this Canadian flour.

No mention has yet been made of the coasting trade of the Port during these five months. Into the City Docks, the two docks at Avonmouth and into Portishead Dock 3,454 coasters came trading in during the last five months from the 1st August to the end of December in the year 1913. Their net tonnages added up to 369,305 tons and they carried in and out 697,719 tons of many kinds of goods. The five war months of 1914 brought the dark reality of a decline in trade and threw the first dark shadow of lasting change; only 3,000 coasters entered, 454 fewer than the year before. Their tonnages came to 351,718 tons net and their cargoes to 578,339 tons, a drop in goods of about 120,000 tons. In the five peacetime months of 1913 there were on average 157 coastal arrivals a week and these ships averaged 106 tons net, brought in cargoes of about 140 tons and took out about 60 tons. In the first five months of the war 20 fewer coasters arrived on average each week with a slightly larger average tonnage of 117 tons net and with inward cargoes slightly less at about 130 tons and with outward cargoes about the same at 60 tons. Coasters like ocean-going ships



SMOKE IN THE AGE OF STEAM

THE SCENE IS THE FLOATING HARBOUR at the entrance to the Welsh Back reach after the curve past Redcliff from the Grove. The two great buildings joined by the lesser ones are the provender mills of the Western Counties Agricultural Co-operative Association Ltd. in the prime of their working life from about 1906 to the 1960's. Behind them, as behind Spillers' adjacent flour mills, lay the narrow cobbled Redcliff Backs that like the site of the mills had once been the waterside gardens of the merchants of Redcliff Street and were now in the period of which we write crowded almost to capacity with local motor and horse-drawn lorries and carts bearing sacks of grain, corn, flour or meal either to or from the ranges of mills and granaries.

The sombre quality of the photograph prevents us naming the small coaster in the foreground but it is probably one of Burton and Sons' small coasters that ran almost daily to Cardiff and Newport and is heading for the Burton Shed near Bristol Bridge. Such little ships of an average tonnage of about 60 tons net made 1,616 entries from Cardiff and Newport in the Port year ending the 30th April 1914. The steam-driven coal barges that plied almost daily between the coal wharves at the City Docks and the South Wales ports seemed more sturdily built and in the same Port year made 2,053 entries with an average net tonnage of about 120 tons. The doyen of these elderly colliers was A. J. Smith's *John*, 140 tons gross and 72 tons net, 90 feet long and 19 feet in breadth, of iron construction and screw-driven, built by J. T. Price at Neath Abbey in Glamorgan in 1849.

were liable to requisition and indeed were called upon for many naval duties as the war continued.

Such phrases as "the man in the street" are readily used but out upon the highway it is hard to identify him and it would have been no easier in 1913 to stand alongside one of the entrance locks of the Port and point out an average coaster of about 106 tons net as calculated in the last paragraph. We see the gap between averages and reality in trying to name a coaster of such tonnage and give an idea of the length and breadth of what arithmetic would seem to show as a typical coaster of that time. In fact the coasters going in and out of this port were either much smaller or much larger than 100 tons net. The *Devonia* of 29 tons net, 85 feet in length and 18 feet in breadth was on the Bideford run. The *Norseman* of 86 tons from Cardigan Bay was 120 feet by 20 feet. Burton's little ships on short trips from the Welsh Back to Cardiff and Newport were the *Ethel* of 48 tons and 83 feet by 19 feet, the *Moderator No. 4* of 57 tons that was 83 feet by 18 feet and the *Teal* of 77 tons, 98 feet by 19 feet. The *Ethel* dated from 1870, the *Teal* from 1889 and both these ships were launched from John Payne's shipyard on the Somerset side of the New Cut. Pockett's Bristol Channel Steam Packet Company on the Narrow Quay had the *Agra* and *Velocity* both of 62 tons net running to Ilfracombe and Swansea. Galbraith's *Merthyr*, 72 tons net and 107 by 20 feet, was built in the Floating Harbour yard of G. K. Stothert and Company in 1893 and ran to and from Carmarthen.

From little ships of this size making frequent trips within the Bristol Channel we go for the most part to coastal steamships of over 300 tons net. The Bristol Steam Navigation's *Clio* built in 1873 and in June 1913 on the Dublin run was 473 tons net, 230 feet in length and 28 feet in breadth. Bazeley's of Penzance with the Little Western Steamship Company as Bristol agents had three ships, the *Coath* of 505 tons, the *Cloch* of 373 tons and the *Mercutio* of 527 tons, trading between Bristol and London. Mark Whitwill and Son were the agents for William Sloan of Glasgow to which port their five ships *Annan*, *Ettrick*, *Findhorn*, *Teviot* and *Tweed* linked the City Docks from the Glasgow Shed on the Welsh Back. The smallest of these ships was the 1883 *Teviot* of 443 tons net, 230 feet long and 32 feet in breadth. Langlands of Liverpool and Glasgow with their fleet of thirteen Princesses linked the Port with Plymouth, Southampton, Hull, Middlesbrough, Newcastle-on-Tyne, Leith, Dundee and Aberdeen through the Bristol agency of D. L. Howe & Co. In one fortnight of June 1914 their ships made six calls at the Port and the smallest was the *Princess Thyra* of 311 tons net. The *Princess Dagmar* left the line's berth at C and D Sheds on the Welsh Back for Cardiff on Wednesday the 3rd June and returned to the Port from Aberdeen a fortnight later. Nearly 43,000 tons of goods passed through this berth in 1912. The largest coastal tonnage to pass through one shed at the City Docks in 1912 was the 80,000 tons to and from Liverpool and Manchester put through the

Grove Shed rented from the Port by the Liverpool shipowners F. H. Powell & Co. In June 1914 the *Devon Coast*, the *Somerset Coast* and *Monmouth Coast* carried on this trade. Early in August the *Monmouth Coast* was requisitioned as was another coastal trader from Bristol the 1886 *Eddystone* of 335 tons net owned by the Clyde Shipping Company of Glasgow and in June 1914 sailing to and from Waterford. Bristol shipowners certainly did not monopolise the Port's coasting trade at this time.

At first glance the decline of coastal traffic at the Port by about 120,000 tons in the first five months of the war at a time when the railways were extremely congested is surprising. Up to the outbreak of the 1914 war the three great methods of sending goods any appreciable distance to or from our ports were by rail, by coaster or where available by inland waterway. Commercially it was a waste of time to send heavy loads for more than about five or six miles by horse-drawn waggons if rail, coaster or inland barge could be used. Motor lorries were not yet much to be seen upon the narrow inland highways around Bristol and where encountered along limestone roads raised cyclones of dust or showered mud. The Government had taken over the railways early in the war on terms whereby no charge would be made on Government traffic but railway revenues would be made up to 1913 levels so long as the Government kept possession. Railway rates on other traffic were frozen at 1914 levels. As if the railways were not in trouble enough by the priority given to the military movements of more and more troops and increasing amounts of military equipment, stores and war materials, the railways had locomotives and rolling stock taken from them for military traffic and in many localities railway sidings were set aside for war purposes only. Shortage of railway trucks remained a chronic state during the war not only at ports but to an even worse degree at city rail depots where industry and commerce had to leave their loaded vehicles hour after hour in the hope that a meagre supply of empty trucks or wagons might be shunted in. Orders for flour from Spillers and Bakers' mill at Redcliff Backs barely a quarter of a mile from the large railway depot near St. Mary Redcliff were about three months in arrears. Spillers who also had a large mill at Cardiff, did send flour and so forth throughout the war from the City Docks to Bideford by that beautiful and immaculate small coaster the *Devonia*, 85 feet by 18 feet with a depth of hold of 7·5 feet. Pembroke and Cardigan were also fed by coaster from the Bristol mill. But the Port problem of coastal decline of which these five months only saw the beginning was much more complex than the simpler problems of sending out flour from a large waterside mill during wartime.

This decline in coasting traffic took place in greater or less degree at all the principal British ports and at the onset of war East Coast ports were affected far more than West Coast ports by reason of the danger from fire-and-run surface raiders, from floating mines and from submarines. It has, however, to be remembered that at the beginning of August 1914 there was almost world-wide apprehension on the part of shipowners concerning the dangers of enemy action. It was the larger shipowners who tended either to keep their fleets of faster ships in use or to bring them back into service more quickly after an initial pause. Tramps usually ran on lesser margins of profit than cargo liners on established routes and the owner of one or two tramp ships had understandable qualms about losing a ship which earned half or all his livelihood and which was only accepted by marine insurers at a valuation written down to far below its launching price of some years before and for a sum which was unlikely in wartime to secure a replacement. Imagine then the similar feelings of a man who ran a small and vintage coaster from a quay in a western river or creek or for that matter from Bristol itself. The years from 1900 to 1914 were the zenith of such owners and their profits were probably moderately comfortable by the standard of the times when there were far more small businesses earning a comfortable profit or livelihood than there are today. It can be said that the Government's War Risk Scheme of the 4th August should have calmed their worst fears and no doubt it did but the insurance rates of up to £1 per cent each voyage on cargo and of perhaps 30/– per cent for three months' cover on the ship were serious burdens for coastal shipowners who by 1914 were already facing selective competition from the cheap rates offered by the then wealthy railway companies along their port-to-port railway routes. In any event by the time the reasonable fears of coastal owners began to subside, other adverse circumstances began to arise of wider import than to the coasting trade alone. For these reasons the drop of 71 coaster arrivals at the Port in August 1914 as compared with August 1913 was not made good in the following months. There were 76 fewer coasters arriving in September, 134 fewer in October, 83 fewer in November and 90 in December 1914.

Many coasters came within the grasp of the requisitioning officers of the Crown and the crews of the coasters responded to the urgent call for recruits in these first days of the war no less than did their fellow-countrymen ashore. In these early months recruiting officers eagerly accepted all fit men of suitable age regardless of occupation and it was no part of their duty to consider the disastrous effect that the loss of large numbers of key men was to have upon the war effort of the industries and businesses from which recruits were taken. A coaster off the dangerous shores of the Bristol Channel was no place in stormy weather for an inexperienced or unfit man in a complement of only three or four men and with an experienced skipper gone to the wars it was safer to lay up the ship against better days. At this time dockers in their thousands from every great port in the kingdom answered their country's call. Moreover, as in all walks of life, it tended to be the best and ablest who went first and whilst it is here our narrow concern to record the grave loss in output that their going brought about in ship's hold, on quayside and in sheds and warehouses, we can already apprehend the decline in the post-war quality of national life that Britain was to suffer by the disproportionately high casualty rate of these finest men from all classes. We are told by Fayle at page 403 that 5,000 to 7,000 dockers enlisted at Liverpool, 1,000 at Manchester and rather more at Glasgow. We are not given the figures for other ports. From the outbreak of war, however, the Docks Committee were told the names of those members of their indoor and outdoor staff who had joined the Colours and in March 1915 the Committee were given a list of the names of those who had gone on active service. The names add up to 36 of the indoor staff and 86 of the outdoor staff. In Spring 1914 there were 176 indoor and 439 outdoor staff at the three docks. Thus the percentage that had enlisted from each section of the Docks staff was about 20 per cent. There were at that time about 3,000 dockers who looked to the docks for their livelihood. These men could be employed daily and not on any regular basis by any one of quite a number of dock employers and nobody knows how many volunteered to serve in the Navy or the Army in these early months of the war. There is certainly no reason to think that any lesser proportion of our dockers joined the Forces than did the permanent staff and if the percentage was much the same then some six hundred fit and able dockers in the prime of life had gone and the Port of Bristol was left, as we know it was, with a depleted staff and a depleted labour force at the very time when the Port had more to do than ever before.

Most of the leading British ports in these war months of 1914 had many ships at their outer anchorages awaiting berths within the enclosed docks to unload and to load. The state of affairs at the Avonmouth Docks was no exception. In early August there came the requisitioning of the best transit sheds by the military who packed them with soldiers and equipment and began to warehouse military stores not for immediate or early removal. Then came the rush of transports for the First Movement. When towards the end of August, Ross-Johnson gained some clearance and the return of some transit sheds, the awaiting commercial shipping with cargoes would in any event have taxed the Port's resources. Not only did war transports continue to come and go with priority, but prize cargoes began to arrive and remain static in sheds and warehouses while legal gentlemen pondered as to what should equitably be done. This was as bad or worse than the situation caused by the more or less departed military warehousekeepers. The Government eventually decided to take their prize property and its problems inland but this was no matter for the wave of a magic wand. Dock labour was depleted, railway trucks were short, the railways were grossly overloaded and short of men, while much equipment and many sidings had been requisitioned by the Government. Upon docks, railways, ocean-going shipping and coasters alike the priority requests began to descend like the fall of leaves that autumn. And then the Sugar Commission was set up to remedy the loss of refined sugar which before the war had come in large quantities from Germany. The energy and success of the Sugar Commission was startling—to Port authorities. From far cane-producing countries came supplies, from Java, Cuba, Mauritius and, of course, from the British West Indies. As compared with the U.K. import of 650,000 tons in the six months to the end of January 1914 over a million tons came during the corresponding period ending in January 1915. In November and December 1914 a quarter of a million tons was brought into British ports by tramp shipping from the plantations of Java alone. Some of the sugar was refined and some unrefined. For the Port of Bristol it was an ancient trade revived, but at this time it was an unwelcome windfall.

On the 9th November the *Radja*, 4,704 tons net, came in from Greenock to unload at Avonmouth a part cargo of 1,000 tons of sugar from Samarang in Java. That small lot gave no undue difficulty. The *Flores*, a Dutch ship of 2,813 tons net en route from Java, left Port Said on the 10th November, sailed from Marseilles after part discharge on the 20th and arrived at Avonmouth with her remaining cargo of 1,000 tons on the 1st December. By the end of that day two more sugar boats from Java, the *Zoroaster* and, a fortnight before due, the *Ben Lomond*, arrived and both anchored in King Road anchorage awaiting berths. The *Spilsby* from Mauritius was expected within a day or so. On the morning of the 1st December the naval authorities told the Port Authority that they required the complete monopoly of four out of the six berths in the Royal Edward Dock for an indefinite time. The *Zoroaster*, 2,445 tons net, entered Avonmouth with 5,723 tons of sugar in 57,240 bags of about 2 cwt. apiece. Her discharge took twelve days, three of which were rained off. An unloading rate of 800 tons a day was expected by William Beloe, the Sugar Commission's local agent, but 760 tons was the highest daily rate at a time when skilled labour was short in numbers and shed space extremely congested. That did not of course prevent the Royal Commission on the Sugar Supply from the cover of Scotland House on the Victoria Embankment from complaining a month later of the very slow discharge as the Dutch owners were claiming 8½ days' demurrage. If the Commission ever paid, the Port did not.

The *Ben Lomond*, 3,124 tons net, entered Avonmouth on the 5th December with a cargo of 6,760 tons of Javanese sugar in 68,052 bags. There were 27 different lots of sugar in this cargo and each bag carried the separate mark of the lot or parcel to which it belonged. To add a little interest to the proceedings the marks were for the most part not in English script. Each bag had to be sorted and stored to its mark, a procedure much facilitated during the unloading of cargo by a large empty space upon the ground floor of a transit shed. A large lake in the Sahara was a more likely find at this time. The sugar agents had been told the cargo would not all be put in one place but would have to be crammed into such shed spaces as could be found here and there.

With the case of the *Spilsby*, 2,254 tons net, due to arrive from Mauritius on the 2nd or 3rd December 1914 with 5,358 tons of sugar in 78,000 bags, we can just about lay bare the chaos at Avonmouth in the last month of 1914. This can be done because six months later on the 7th June 1915 the following letter was received in the Port's Avonmouth Office from the local agents of the Sugar Commission:

> "We have been asked by the Royal Commission on the Sugar Supply to send them copies of any correspondence which may have taken place locally with reference to the Docking orders given to this vessel, and to inform them whether the vessel was ordered into any particular Dock, and whether it is ever customary to lighter from that Dock. Any information you can give us we shall be glad to receive. It would we think also be as well if when writing us you would state the date the vessel arrived outside Avonmouth Dock, when she was ordered in, and when a berth was obtained for her, also any other information which you think might be of use. Kindly let us hear from you as soon as possible."

The *Spilsby* had arrived on the p.m. tide of the 15th December and was moored in the Avonmouth Dock on the 16th December. Unloading began on the 21st December, ended on the 20th January and the ship sailed the following day. During this time the weather was bad and it was of course desirable that the sugar ship should be moored at a berth in front of a transit shed with enough space into which the sugar could be moved directly under cover. At no time could the *Spilsby* be given such a berth. The *Spilsby* was in fact shuttled back and forth seven times at the south end of the 1877 Avonmouth Dock. Half the sugar was put overside to craft and went to the City Docks. Some was loaded into railway trucks on quay perhaps to go inland or, much more likely, into dock rolling stock to be kept there until it could be shunted to any dock building with a little empty space. In this desperate wartime situation His Majesty's Customs were insisting that each of the 78,000 bags should be weighed for duty purposes as it came ashore rather than weighed on dock weighbridges when moved off the dock, a proposal made by the Port Authority. The *Spilsby* first went to Shed K which was packed with grain, then by consent of the War Office to Shed N, a Base Supply Depot, then to Shed H full of grain, then to Shed M full of sugar from the *Ben Lomond*, then back to Shed K, then to Shed D also full of grain and finally back to Shed K again. Little wonder that even by working through Christmas only about 160 tons a day were being discharged. All these sheds were single storey and are shown on the plans at the end of this volume.

The Sugar Commission were duly given the salient facts. The answer to their agent's question as to whether it was ever customary to lighter from that dock was "It is, as you are well aware, customary to lighter goods from this Dock to

Bristol". The Port Authority did not enlighten the Commission on what might be termed the dark side of this lighter question, namely, that from the 10th December to the beginning of March small craft and coasters had taken 170,000 bags of sugar in 73 journeys from Avonmouth to Bristol and that prominent in these journeys were steam barges that customarily brought coal from South Wales to Bristol. This sticky problem now literally clogged up transit sheds and city warehouses around the City Docks. At least it did less damage there to the national cause.

Thus the *Spilsby* with 5,358 tons of sugar to unload had been at Avonmouth for 35 whole days against a comfortable stay of 10 days in peacetime conditions. During her time within the 1877 Dock the ship had been moved seven times. Both of the docks at Avonmouth were packed with shipping and the transit sheds were packed with goods as the Port endeavoured to serve both the war god Mars and the Mammon of commerce. The Port in fact achieved wonders but as usual in such dualities neither Mars nor Mammon was satisfied and neither did that hybrid progeny of Mars and Mammon, the Sugar Commission, consider the handling of their commodity satisfactory.

By the end of 1914 the first phase of the war was over. The Germans had failed in their well-laid plans for a swift and easy victory through the overthrow of France. The lines of war were concentrated, fossilised almost, across France where victory for one side or the other would almost certainly have led to total victory. Upon the surface of that unruly element the sea the enclosing grip of the British Navy seemed assured and commercial chaos had thereby been avoided. If the German cruisers and armed merchantmen had not all been eliminated by the end of 1914, the survivors were being overpoweringly pursued. The direct event upon the sea was not the loss of over 400,000 tons gross of British merchantmen sunk, captured or detained but the flight through the Mediterranean of the German battle-cruiser *Goeben* and light cruiser *Breslau* into the Dardanelles on the 10th August to moor in the Golden Horn at Constantinople.

Their presence immeasurably fortified the dominant diplomacy in Constantinople of the Germans who had long cultivated their influence over Turkey. The Turks refused passage through the Dardanelles to pursuing units of the British Navy that would no doubt have overpowered the German ships. Turkey was now plainly in danger of coming fully under German influence. British shipping and cargoes from Russian grain ports and from Rumania were held up beyond Constantinople and it was not until the 22nd August that these merchant ships were permitted by the Turks to pass through the Straits into the Mediterranean in continuance of their homeward voyages. No further British shipping risked entry into the Black Sea and by mid-September most British ships had loaded at the Russian grain ports and sailed from the Black Sea into the Mediterranean. The *Goeben* and *Breslau* were allegedly transferred to the Turks and on the

28th October Russian grain ports and the oil installation at Novorossiisk on the Black Sea coast were bombarded by these German warships flying the Turkish flag. A British ultimatum to Turkey expired on the 31st October and Britain was that day at war with Turkey.

The pace and scale of war often sweeps past and obscures lesser happenings of interest to us and of much concern to those involved. Such an event we now recount before passing on to the greater themes of 1915.

V

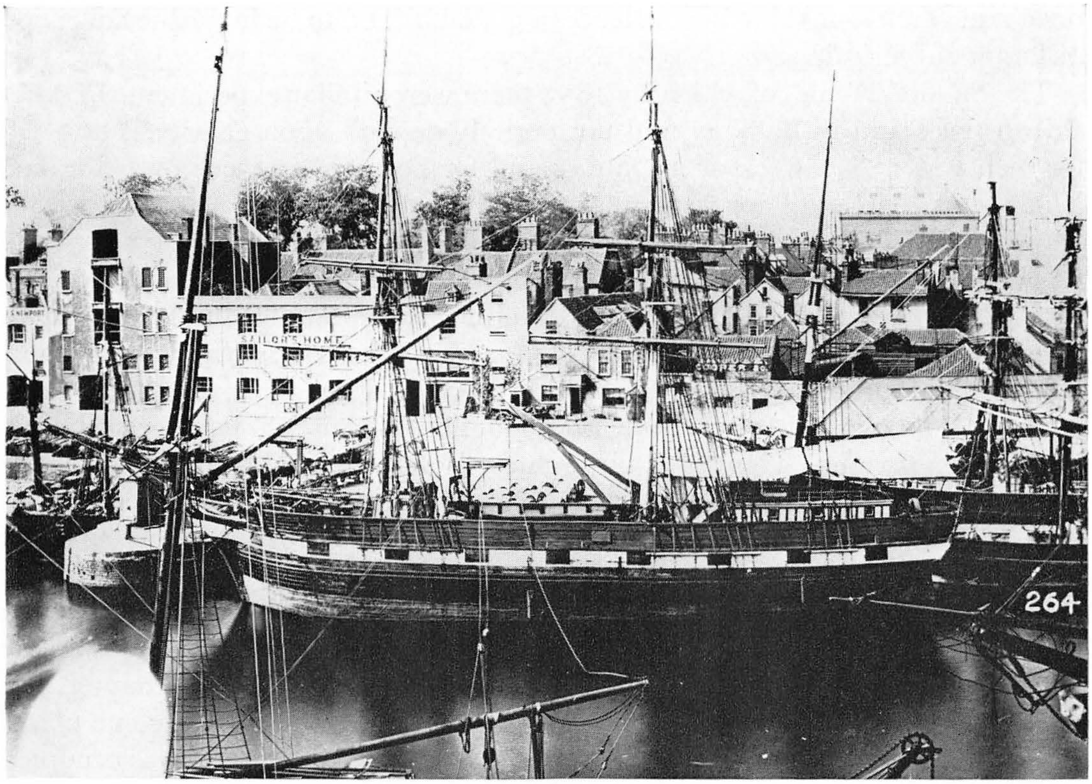
1914:
An Angel Unaware

THE stranger who came ashore at Bristol in the Middle Ages found the teeming city rich in churches and chantries, in the religious houses of the friars and in endowed almshouses. Many of the ancient houses and hospitals of charity survived, under new management, the depredations of Henry VIII. At and after the Reformation the life of Bristol was enriched by the fine schools and benevolences founded by those great Bristol merchants, Robert and Nicholas Thorne, by John Carr, by John Whitson, by Edward Colston and by many others too numerous to name. Their schools immortalise their memory. The arrival of the Quakers and the Dissenters, and John Wesley was much with us, were as freshets to this Bristol stream of well-doing even though the works of charity were by this time less glorious and more mundane than in earlier centuries. In this context the generosity of the Docks Committee's Victorian members, of church and chapel alike and almost without exception, should be mentioned. To this day the Society of Merchant Venturers continues to apply revenues to the upkeep of the Society's good and ancient causes. Among these is the Merchant Seamen's Almshouse, or the half that an air raid left, which almshouse Charles Wells records at page 380 of his *Short History of the Port of Bristol* as appearing to date back to the founding in 1445 by a guild of Bristol mariners of a chapel to St. Clement and to St. George for the maintenance of a priest and twelve decayed seamen. During the fifteenth century the chapel and almshouse, no more than a hundred yards from Bristol Quay and now part of King Street, passed to the Society of Merchant Venturers. In 1695 Edward Colston told the Society of his intent to provide funds for keeping six aged seamen on a weekly subsistence of two shillings apiece if rooms for the six men were added to the almshouse that stood to the east of the Merchants Hall. This was duly done and it would appear that nearly the whole of the almshouse was then rebuilt around an inner quadrangle since the remaining part, typical of the former whole, bears upon the outer wall the arms of the Society and the date 1701.

In accord with these traditions men and women of Bristol were pioneers in their concern for the wandering seamen whom the tides of trade brought through the Avon Gorge in ships that moored alongside Bristol quays. Not surprisingly it was upon the rising wave of religious enthusiasm in the early nineteenth century that there came concern for the lot of the seamen in port but far from home. For once Latimer's *Annals of Bristol* are silent on the subject of seaman welfare but he does tell us that, at about the close of 1820, local residents were incensed by the chopping down of four rows of lime trees "upon that part of the Quay still known as the Grove". However, if timber went, other timber came in the shape of "the first floating chapel being a somewhat primitive structure known as *The Ark*". The description is given by George Stone in *Bristol: as it was and as it is* and from him we learn that the Bristol Seamen's Friend Society and Bethel Union dates from 1820 and that in 1821 the Society replaced *The Ark*, purchased the hulk *Aristomenes* (named after a Grecian war hero of 685 B.C.) and fitted the craft as a place of worship for 800 to 1,000 people. This first Bethel was also moored at the Grove and to the crowded services came townsmen to join the men from the sea. The *Aristomenes* lasted twenty-five years. Then even as swords may be beaten into ploughshares, so H.M. bombship *Aetna* was brought into the evangelical berth at the Grove.

In the weekly issue of Saturday, the 8th January 1853, *Felix Farley's Bristol Journal*, taken over in the following April by the *Bristol Times*, records that on Tuesday, the 4th January, the Sailors' Home was opened in Queen Square. A number of local men led by P. W. S. Miles, local landowner and banker, had purchased from Mr. Maze for the sum of £1,300 a house that remains today the most interesting house in Queen Square, No. 29 upon the southern side. *The Georgian Buildings of Bristol* by Walter Ison tells us, among much else about the remarkable No. 29, that it was built between 1709 and 1711 for Nathaniel Day under a lease granting a plot of ground with a frontage of 44 feet in the South Row and a depth of 118 feet. This depth goes back to a line along which the frontage of the Grove borders upon the highway beyond which the southern of the ancient City quays rests beside the Floating Harbour. By 1853 the Grove frontage of Nathaniel Day's 1709 plot had been substantially built upon and it would appear that the purchase price of £1,300 in 1853 included not only No. 29 Queen Square but also the plain-fronted house of three storeys that stood upon the back of Nathaniel Day's plot looking out across the Grove.

At the opening ceremony which took place in the dining room of the Sailors' Home on Tuesday the 4th January two future Dock members were of the company, James Ford (1856–1877), warehouseman and founder of Ford and Canning, now Limited, and T. P. Jose (1858–1873), American merchant and tobacco broker. Robert Bright, leader of the Free Port agitation which had five years before led to the property of the Bristol Dock Company being taken over by the City but who, that done, never became a member of the Docks Committee, was also there. Alterations to the houses and the providing of suitable quarters had cost £600. A debt of £700 remained despite donations received, but perhaps far from this being a millstone it was as Alderman Dyer



THE SAILORS' HOME, CITY DOCKS

BEYOND THE SHIPPING AND THE COBBLES OF QUAY AND HIGHWAY stands the frontage upon the Grove of the Sailors' Home. The date of the photograph is not earlier than 1869.

The premises of the Sailors' Home extended through to the elegant façade of No. 29 Queen Square. Far other than of benefit to seamen were certain establishments that also stretched from quayside back to a street or vice versa. Beyond the mainmast of a barque can be seen the double front of the "Coach and Horses", a tavern that claimed legendary associations with Defoe and Alexander Selkirk and even with Stevenson's *Treasure Island.* Almost hidden by the mainmast is the "Spy-glass", a small protruding structure from which watch could be kept from inside the tavern against the press-gang. The tavern was better known as the "Hole in the Wall" since it had a back way out into Bell Avenue. Thus a seaman might go in from the Grove, suffer from too much "hospitality" and be taken out via Bell Avenue as an unwitting member of the crew of his next ship. Even in the 1900's many a Bristol tavern had such an escape route for the unwise and unwell as the constables appeared on the front pavement. The "Shakespeare" with a notable Georgian frontage in Prince Street had a sinister rear passage to the Narrow Quay. The Sailors' Home in 1853 was well situated for its virtuous work, but backsliders had not far to go.

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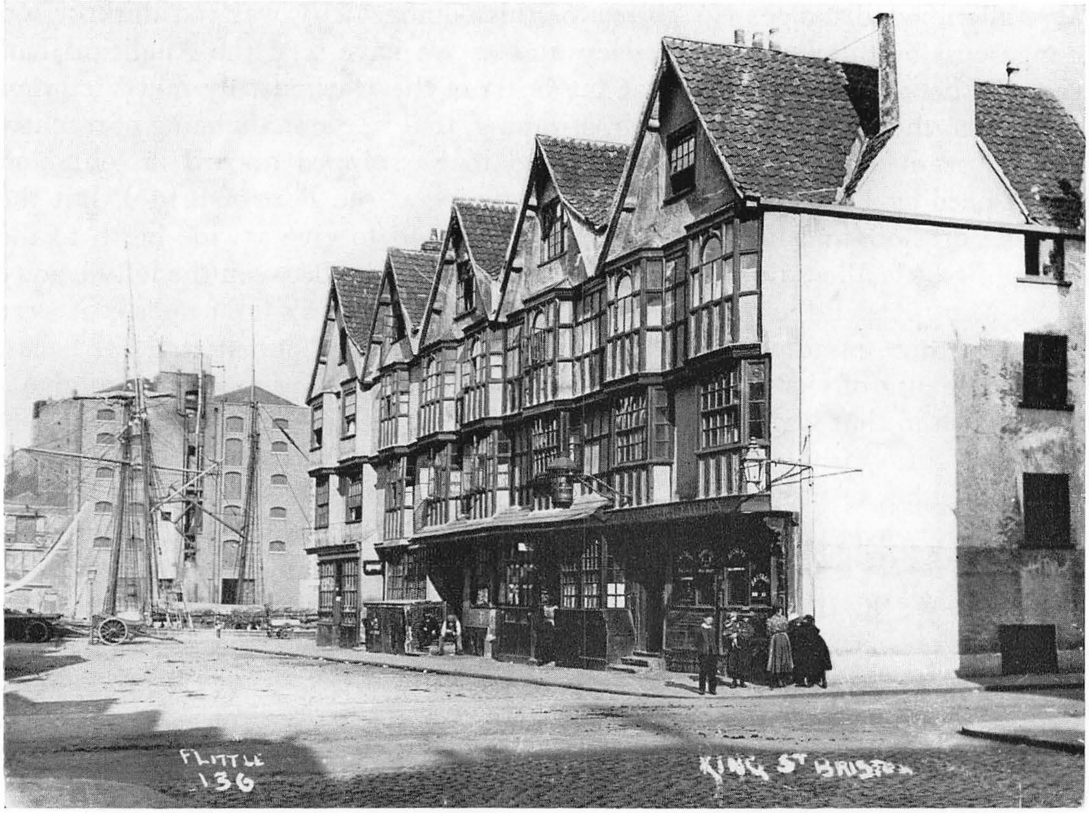
once said of a loss-making benevolence, a good position to be in for the collection of larger subscriptions.

The Sailors' Home, of which by 1853 there were similar experiments in other British ports and in Bombay, did not entirely depend upon charity. The tariff for men was 13/– a week or 2/– a day and for boys 10/– a week or 1/6 a day. This seems high until we remember that the Sailors' Home was a refuge for seamen who came down a ship's gangway with the wages of a long voyage in their pockets. Moreover, the tariff would prove a decidedly cheaper and better proposition than the exactions of the crimping houses and of the harpies' dens which were usually the concomitants of great seaports. Those who wish to know more of the location and practices of such places and their denizens in the ports of the world may read *Sailortown* by Stan Hugill who claims to have been the last working shantyman. There was no organised or recognised Sailortown in late Victorian or Edwardian Bristol on the scale, for example, of Tiger Bay across the Channel in Cardiff. Hugill is to some extent right in pointing out that the absence of a Sailortown at Bristol was due to the long and winding Harbour with no compact massing of ships in a large dock area. There are, however, other reasons. There was undoubtedly a density of shipping alongside the ancient City Quays built upon the peninsula described in the first chapter, but the peninsula held no density of poor or decaying houses ripe to become places of low resort. Stately Queen Square dominated the peninsula and was occupied first with the homes and then with the offices of merchants and shipowners moving to reside in stylish Clifton. King Street that ran across the peninsula was less reputable with a number of inns including the historic Llandoger Trow. In King Street was to be found the Royal Theatre, now become Bristol's distinguished Old Vic Theatre, but then rightly known as the Old Gaff. The Royal added long and lively decades of Victorian and Edwardian low life to this Georgian theatre, decades some glossy chroniclers seem to know not of. But one shortish street, cobbled as all around there were, made not a Sailortown and all the while the hideous little warehouses of merchants were being built in place of ancient gables that could perchance have harboured disrepute. Upon all the water frontages of the City Docks the quays, railways, yards, mills, sheds, timber and storage yards, gasworks and dry docks large and small crowded in upon the land between the Harbour and such few rows of dwellings as lay for the most part at quite a distance from the quays.

Bristol as late as 1850 was a compact city that stood for the most part at the upper end and away from the Harbour. From the time of Wesley and his first chapel, a little gem of simplicity in Broadmead, Bristol was a stronghold of evangelical nonconformity. Within this compact city there was thus a zeal for reclamation and reformation in which movement the evangelical churches of the Anglicans certainly joined while some of the high churches followed at a dignified distance. No corner of this compact city was too dark or too dangerous for the zealots of Wesley and as we have seen the Anglicans had their Bethel ship on the Grove at the heart of the Harbour. By mid-Victorian days, according to L. A. G. Strong, crimping, that is, the shanghaing of recently arrived seamen made drunk or drugged to be shipped aboard an outgoing vessel needing hands, had ceased as a practice at the Port of Bristol. But the seamen of those and later days were well advised to give a wide berth to the appalling little alleys that lay alongside Redcliff Street between the lofty beauty of St. Mary Redcliff and the lofty utility of Proctor Baker's flour mills that were less than three hundred yards away alongside the Harbour at Redcliff Backs. Another haunt of vice was the "Rocks"—surely a warning to seamen to give a wide berth to that steep and ruinous area that lay within the harbour parish of St. Augustine's behind the elegant eastern façade of the shops of genteel Park Street. Neither of these crevices of vice nor any others there may have been in Bristol were obviously accessible to seamen in the manner of typical Sailortowns elsewhere where a mass of waiting streets and taverns stood visible on the far side of the quays. St. Jude's, the parish of the pariah, lay inland to the east of the centre of the city and was perhaps a little far for wandering sailormen who favoured Sailortowns within sight of topmasts. However that may be, there is no doubt the Sailors' Home upon the Grove was a needed port of refuge in 1853.

The tariff of 13/– per week included a weekly washing of the sailor's garments, to wit "three shirts, pair of trowsers [*sic*], flannel waistcoat, pair of drawers, two pairs of stockings and two handkerchiefs", presumably a fair description of his washables. There was to be no smoking in the dormitory but "a smoking place was provided for the inmates" who were expected to be in by 11 p.m. when the door would be locked and none admitted until 6 a.m. the next morning. The house upon the Grove was for the lodging of up to fifty-two seamen. The first two floors of No. 29 Queen Square formed the living quarters of the Superintendent of the Sailors' Home, Lieutenant Kemball, and also held a room reserved as a Committee Room. The second floor was reserved for thirty boys.

To pass from things material to things evangelical, sailors had but to cross the Grove and cross the quay to where the ex-bombship *Aetna* lay. By 1883 the *Aetna* had become ripe. In that year the *Gloriosa* was bought to replace the *Aetna* but on the tow from Liverpool the tow-rope parted in rough weather and the *Gloriosa* was abandoned. The ship was however salved, brought to the Floating Harbour to serve as a Bethel ship at Mardyke Wharf opposite Hill's shipyard until the end of the century. By then the Church of England had built their Seamen's Church and Institute in Prince Street amid the City quays and no more did a Bethel ship lie at Bristol moorings. By then too the missionary work among seamen which Dr. John Ashley, a young Anglican clergyman, began from Bristol in 1835 had spread across the oceans and into the great ports of



King Street, Bristol

From the low hill between the converging Rivers Avon and Froom the citizens of Bristol could until the restoration of King Charles the Second look southward from their walled city across the Marsh where the rivers merged. Then in the 1660's King Street was built from near Bristol Quay in the west across to the tidal course of the River Avon in the east.

By 1664 this group of half-timbered houses was built. The nearest house is the hostelry "Llandoger Trow" and on its end wall we can see where once was a narrow gable with a side-entrance at street level and projecting windows in the upper storeys. It also had and has a convenient side-entrance at the rear of the building. Conveniently nearby is the cobbled highway and quay of the Welsh Back where a coastal sailing craft is seen to be moored. The warehouses beyond are upon the other side of what is now the Floating Harbour. This Victorian photograph comes from the Fred Little collection of H. Salanson & Co. Ltd.

the world with institutes ashore and missionary ships at sea under the Flying Angel flag of the Missions to Seamen, a Society formed in 1856. The vast and noble work of the Missions is plainly beyond our scope except to say that their work has not lost impetus at the Port since their Seamen's Club is in Portview Road, Avonmouth. L. A. G. Strong's book *Flying Angel* is mentioned in our bibliography and it is with one of these Angels afloat that we are now concerned.

Quickly upon the outbreak of war the Haven Master had been entrusted with the patrol of the Port's limits and with the search of inward-bound vessels to meet the peril of deposited mines or other such ill intentions. What follows has mostly rested in the recesses of elderly minds and in File C/1954b of the Port Archives, "Defence of Docks (Patrolling King Road): Expenses Incurred". King Road is the ancient anchorage off the coast of Somerset reaching from the mouth of the Avon across to the entrance to Portishead Dock once the site of Portishead Pill. "Pill" according to the voluminous *Shorter Oxford English Dictionary* is not only "something disagreeable that has to be swallowed or endured (1548)" but also "A local name on both sides of the Bristol Channel, Cornwall, etc., for a tidal creek on the coast, or a pool in a creek, etc."

For this patrol two local tugs the *Bristol Scout* and the *John Payne*, which was built by and named after the owner of the former shipyard on the New Cut, were hired for the weekly sum of £35 apiece. On the 14th August R. H. Jones, Chief Clerk to Ross-Johnson the General Manager, was visited by Captain E. Palmer Bott of the Missions to Seamen and master of the Missions' steam yacht *Eirene* then off the mouth of the Bristol Channel where the ways of Providence were plainly about to become ever more inscrutable. Captain Bott offered for patrol duties the yacht *Eirene* named after Irene goddess of peace and to the Greeks one of the handsome daughters of the great god Zeus. The weekly charge for the *Eirene* would be £8 5s. od. being the weekly wage of the crew of four and the cost of coal. The *Eirene* was considered suitable for patrol duties within the Port limits. The offer of Captain Bott was accepted and on the 17th August the Port's Haven Master, Commander Hart, went aboard with the responsibility of deciding the area to be patrolled and matters concerning the search of inward-bound ships. Navigation of the *Eirene* was the duty of Captain Bott. So the *Eirene*, name-child of the goddess of peace, became an instrument of defensive war at a time when lighthouses and the leading coastal lights were extinguished and the navigation lights of ships were either not used or much reduced.

To Commander Hart aboard the *Eirene*, there was seconded at £4 a week Captain W. G. Thomas, Mate of the Port dredger *Frome*, a qualified Bristol Pilot holding Foreign Masters' Certificates. His normal wage had been £2 13s. od. per week. A. E. Weaver joined as Signalman at 27s. 6d. a week and E. Paul was engaged at 37s. 6d. a week as Cook and Steward to feed the other nine men aboard. An extra deckhand at 30s. a week had been put under Captain Bott. His crew, which included two youths, were each given 5s. a week more as a measure of the increased risk over their former peaceful duties. The tug *John Payne* had been returned to her owners with the commissioning of the *Eirene*. Crew conditions were better aboard the steam yacht but there was little remission during any twenty-four hours from remaining aboard and, almost invariably, out upon the Channel waters.

A variation from the tension of wartime patrol came on one of the few occasions when the *Eirene* was moored in calm water. On the 14th September the steam yacht was moored alongside Portishead Pier, one of the less profitable acquisitions of the Great Western Railway Company when the Bristol Corporation took over the Portishead Dock from the Bristol and Portishead Pier and Railway Company in 1884. The Railway Company retained the rail-connected Portishead Pier as an adjunct to their one-track railway line to Bristol. Lucrative passenger tolls and liner dues were the lure. Now Portishead Dock entrance is at the western end of the incurving shore of King Road and Portishead Pier upborne on timber piles projected some two hundred yards beyond the natural curve of the land towards the low-water mark. The rising and ebbing tides ran roughly across the approach to the lock and with some turbulence inshore at this end of the bight of King Road, ships were inevitably borne against the timber waling protecting the pier piles. The Pier had been designed as a rubbing place along which ships might edge their way so as to straighten up for the entrance to Portishead Lock. The passenger tolls and the liner dues did not materialise except for the small tolls occasionally paid when a paddle steamer of P. & A. Campbell's White Funnel Fleet moored at the Pier, but the timber rubbing pieces had to be maintained both in the interest of the Pier structure and to avoid shipping claims for damage caused by projecting timbers and protruding bolts.

It was against this long-suffering timber pier that the *Eirene* was quietly moored when it was found that there was "fire down below". Commander Hart told the Docks Engineer's foreman the yacht's bunkers were on fire and asked for his assistance to discharge the coal. The timber pier of the Great Western Railway Company was hardly the place for that though blessings do come in disguise to those insured. The yacht was brought into dock and all the heated coal was discharged by midnight. The coal, quite cold by next day, was again loaded into bunkers and the *Eirene* passed from ordeal by fire to the perils of patrol.

That such perils were real enough was soon to be shown. After dark on the night of the 9th October the inward bound *Nancy* a steel ship of 1,311 tons gross was steaming without lights through Walton Bay, the deep-water anchorage farther down the Channel than King Road. The *Eirene* was on patrol there. Commander Hart wrote to Ross-Johnson:

> "I have to report that on the evening of the 9th inst., when cruising off Walton Bay, the Steamer *Nancy* collided with the Patrol vessel *Eirene*, the latter named sinking in a few minutes allowing bare time for the *Eirene* crew climbing over the colliding steamer's bows.
>
> All hands were saved, and in this respect much credit is due to Captain Thomas, assistant examiner, who rendered considerable help in the way of assisting in the rescue of others.
>
> There were several minor injuries to the staff and crew though none necessary to report.
>
> The examining staff and crew have lost all their personal property and all papers in connection with examination and office work has gone.
>
> I believe the vessel to be a total loss as she sank in 9 to 10 fathoms of water, L.W.O.S.T. [Low Water Ordinary Spring Tides]. Her place was taken the following morning by the tug *Cabot*.
>
> There was no insurance on the vessel nor on personal effects."

Ross-Johnson at once reported the incident to the General Officer Commanding, Salisbury Division, and as usual not without relevant direct comment:

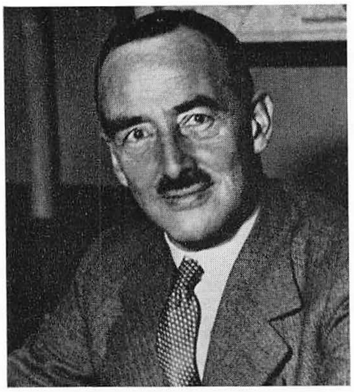
> "I may add that I am myself very doubtful whether, in view of the examination arrangements in force at Barry, these very costly local arrangements really serve any useful purpose, and it is possible that you may decide that they can now be dispensed with without danger to the country.
>
> During the first week of the operations I sent Commander Hart to see Captain Marindin, Chief Examination Officer at Barry, to point this out, and in view of that officer's strong expression of opinion . . . I did not think it worth while to further press my views on the subject."

The loss of the *Eirene* was tersely scheduled in twenty-three words in the Docks Minutes of the 19th October. The last words were "Officers and crew saved. Committee not liable for loss of vessel". The Docks Committee did however consider claims for the loss of personal effects by the four members of their staff on board that night. Commander C. F. Hart claimed £57 6s. 1d., Captain W. G. Thomas £22 15s. 4d., E. Paul (Steward) £19 13s. 6d. and A. E. Weaver (Signalman) £12 15s. 9d. On the 4th January 1915 the Docks Committee agreed "as a matter of grace" to make an allowance of £40 to the Commander, of £15 to the Captain, of £12 to the Sea-cook and of £7 10s. 0d. to the Signalman to cover the loss of personal effects. Perhaps the four men valued their lost property at replacement value rather than value less "wear and tear". No doubt the Mother of Parliaments will one day fix a percentage which we may add in such event for the accreted emotional value with which we encrust our personal possessions. The Committee hedged any generosity by resolving that the £74 10s. 0d. should be included in the accounts against the War Office for the Bristol Channel Defence Service.

The claims mostly for clothing were very detailed and whilst too long for reproduction here give interesting current values. The Commander had lost his sextant, telescope, R.N.R. uniform, sword and belt. The steward was the only man to lose his watch and chain (£3 10s. 0d.). Perhaps he was the only man of the four to be below. Even for a sea-cook it was a prime omission to lose one's watch, however dire the peril afloat or ashore. The ascending social order of their hats is clear. The signalman lost a cap (2s. 6d.), the steward a trilby (3s. 6d.) and Captain Thomas a cap (5s.) and a bowler (5s. 6d.). The Commander lost a felt hat (10s. 6d.) and a straw hat (3s. 6d.). Now the straw hat is hardly likely to have been the round tarred black straws worn by Nelson's seamen. Probably it was the fashionable Luton product comprising a stiff plaited halo with a low stiff crown and flat top—light cream when new, but becoming unfashionably yellow with sunlight. A hatband of coloured silk denoted one's college, school or cricket club. Black hatbands, the majority, denoted no such pretensions.

That the Commander should take his straw hat on patrol, even during that blazing English August rouses surmise. Did the Commander clad in R.N.R. uniform girt with sword belt and telescope intend to sport the straw hat to accost and board any ships of exotic registration, South American, Chinese or such? These sunshine hats that warped in rain were strangely called "boaters". Of all male hats they were the most vulnerable to sudden gust of wind. Wear them afloat and boaters could soon become floaters. One who once saw his boater float away rim uppermost on the sunlit waves finds it pleasant to hope that among the floating debris from the *Eirene* that night the Commander's boater went bobbing gaily away into the gloom.

Captain Bott had agreed that the loss of the *Eirene* was not for the Docks Committee to bear. The yacht had not been insured. It may be that non-insurance was inspired by theological reasons since the faith that moves mountains can also operate afloat as those who have read the appendicitis section of a pre-1914 Medical Encyclopedia for captains of doctorless ships will agree. The famous Flying Angel, for as such the Mission was known to seamen throughout the Seven Seas, may have gazed askance at marine insurers but if so then strangely enough they had solicitors who were considering either an action against the owners of the *Nancy* for negligent navigation or an approach to the General Commanding



R. H. Jones
Assistant Manager, 1918

the Salisbury Division. If the First Lord of the Admiralty, Christian name Winston, had known a General on Salisbury Plain was dabbling in naval waters his remarks could well have been even more pungent than the strong expression of opinion by Captain Marindin when Commander Hart was sent to Barry by Ross-Johnson to convey his doubt on the need for patrol of Port waters.

It appears that the Flying Angel, after some deliberation as to whether to appeal to the General or to the Docks Committee or to bring a lawsuit against the Danish owners of the *Nancy*, proposed to make a claim against the War Office. R. H. Jones, Chief Clerk to Ross-Johnson, records this in a typed memorandum of his interview about the wreck with Captain Bott and the Reverend G. F. Wilson, Head of the Missions to Seamen and also Chaplain to H.M. King George the Fifth. To this memorandum Mr. Jones added, in the green ink which he affected, the words "a moral claim". This, to one long versed in claims moral and/or mercantile, was the best line of approach.

One glance at the 1914 letterhead of the Flying Angel shows the "moral claim" to have been best: Patron—His Most Gracious Majesty the King; President—The Lord Brassey, Knight Grand Cross of the Bath and also Knight Grand Cross of St. Michael and St. George as well as a Companion of that Most Distinguished Order. The Port archives do not record at what high level His Majesty's Chaplain presented the moral claim. On the 5th February 1915 another memorandum by R. H. Jones recorded that he "gathered from Captain Bott, late of the *Eirene*, that the Government now practically admitted their claims". Disraeli once said, "Now I am on the side of the angels". It is likely that in the sad affair of the *Eirene* David Lloyd George, Chancellor of the Exchequer, would at a whisper from above have been on the side of the King's Chaplain.

VI

1915:
The Spiral Begins

On the 7th August 1914 the *Western Daily Press* gave the maximum retail prices for a pound of granulated sugar as 4d., for butter 1s. 6d., for colonial cheese 9½d., American lard 8d., margarine 10d. and for English bacon 1s. 6d. a pound. From what part of the city these prices were taken is not known, but before the war there were available to the housewife in many parts of Bristol competitive and much lower prices for reasonable quality food. Thomas Lipton, the Maypole, the Bristol Co-operative Society and many others saw to that. C. E. Fayle says that the prospect of war between Germany and Russia alone had been enough to put up the price of bread. The Master Bakers of Bristol seem to have been more assured, perhaps by reason of the great mills and warehouses at the Port, since it was not until the 19th October that the *Western Daily Press* reported the price of bread had been raised by a half-penny over the price of 5½d. or 6d. for a 4-lb loaf in October 1913. Fayle also quotes the *Board of Trade Labour Gazette* as recording that by the 31st January 1915 the increase in the twenty-three principal foodstuffs since the outbreak of war had sent the cost of living up by 23 per cent in large towns and by 20 per cent in villages. At the beginning of February both the Dockers' Union and the engineering unions asked the Docks Committee for increases in the wages of their members to meet the greatly increased cost of living. For the Dockers' Union Ernest Bevin joined Harry Geater, the Union's District Secretary, and took a prominent part in negotiations with Ross-Johnson.

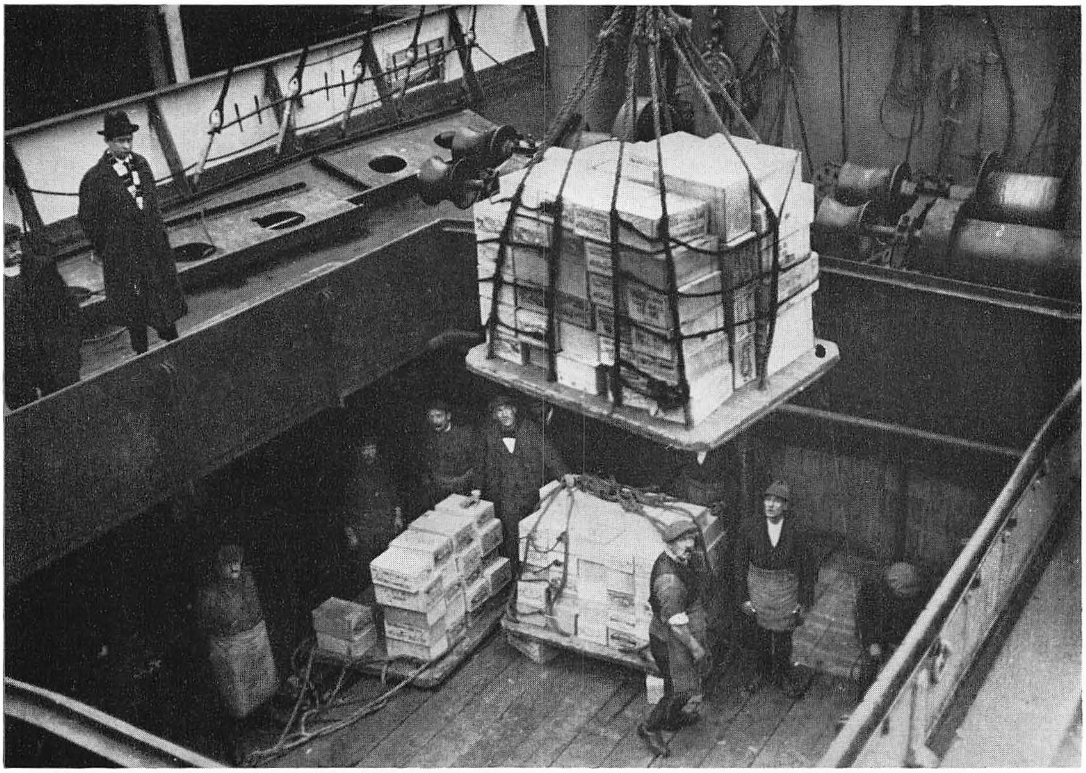
There have been so many dramatic accounts of what dockers earned and how long dockers worked that it may be as well to let in some factual fresh air. And let us bear in mind that in 1914 many a man in the industries of East Bristol worked hard from Mondays to Fridays from six in the morning until five in the evening, with a half-hour for breakfast and an hour at midday, and on six or seven morning hours on Saturdays for around £1 a week.

All the men who brought cargo out of ships, stacked goods in dock warehouses or loaded goods in rolling stock to go away by rail could be called dockers but within that simple term there lay an amazing variety of tasks carried out in a wide variety of circumstances. After the 1911 dock strike the Dockers' Union made separate and detailed agreements as to "Rules, Rates and Conditions of Labour" with the Bristol Corn Trade, with the Bristol Steamship Owners, the

Stevedores Association, the Bargeowners and with the Bristol Timber Importers. Anyone as unfortunate as the writer in having to read the by now rare little booklets enshrining these agreements would soon be rid of any illusion of what a simple affair dock work was. These little booklets were in fact great boundary marks between the former status of the dockers and their masters and the modern relationship that was so slowly to evolve in the next sixty years. The three principal agreements, and there were others, cover three of the larger groups of dockers, the Grainworkers, the General Goods men and the Timber men. Many of these men did not move from one group to another or from one dock to another except in really bad times. Neither the hours, the rates of pay, nor the rules and conditions of the three groups were the same. The good workers, particularly in the heavy piecework of the grain gangs, liked to keep together if only for their pockets' sake and foremen naturally chose the men who knew the class of work and would give a good output.

The ordinary hours for grain workers from Mondays to Fridays were from 8 a.m. to 5 p.m. throughout the year and from 8 a.m. to 1.30 p.m. on Saturdays. There was an allowance time from 10.30 to 11 o'clock in the mornings and a dinner hour on full days from 1 p.m. to 2 p.m. The General Goods men at the City Docks worked on weekdays from six in the morning till six at night and until 1.30 p.m. on Saturdays. Breakfast was welcome from 8.30 a.m. to 9 a.m. and the dinner hour was the same as for the grainworkers. At Avonmouth or Portishead, however, the General Goods men had shorter hours than at Bristol. They had what they called Long Days from the 1st March to the 30th November when they worked from 8 a.m. to 6 p.m. and Short Days from the 1st December to the 28th February when they "knocked off" at 5 p.m. Dinnertime was from 1 p.m. to 2 p.m. and Saturday work was from 8 to 1.30 p.m. supposedly without a break. The hours of the Timber men were different again and when altered in May 1914 became 6 a.m. to 5 p.m. on Long Days and 7 a.m. to 5 p.m. on Short Days at the City Docks with finishing time at 1 p.m. on Saturdays. The ordinary hours for timber working at Avonmouth and Portishead then became 8 a.m. to 5 p.m. and from 8 a.m. to 12.50 p.m. on Saturdays. The shorter hours at Avonmouth gave dockers who mostly lived in Bristol, time to make the journey down and back by train since Avonmouth and Shirehampton were little more than villages and the great housing estates of the Corporation near Shirehampton lay like much else in the undreamt future.

None need fear that the complexities of dockers' wage rates are about to be probed. A few simple facts will have to suffice. From 1911 General Goods men were paid 7d. an hour by day and 10d. an hour on overtime with all meal breaks also paid for, so that on such days as a General Goods man found work he would be paid 7s. for a full day and 4s. 4½d. for a Saturday at the City Docks. On the Long Days at Avonmouth or Portishead the earnings for work on General



STAND CLEAR

THE WISE MEN are standing clear of the hatch since falling goods were a frequent cause of injuries. Shortly before the war the Port Authority were employing about 520 craftsmen and labourers, 220 outdoor traffic staff and on average over twelve months 714 casual dockers a day. During that twelve months 90 of those 1,450 men were injured badly enough to stay away from work and draw weekly payments under the Workmen's Compensation Act of 1906. Four-fifths of those 90 men were casual dockers. In that time the Port Authority handled no more than 935,000 tons of cargo, about one-quarter of all the goods that went either in or out of the Port. Early in July 1914 the Docks Committee were paying out £30 8s. 9d. a week to 44 men on compensation and the weekly sums ranged from 12s. to £1. Three of the 44 men on compensation that July had met with their accidents before the 1906 Act and 12 had been injured within the previous two months.

In the first twelve months of war the Port Authority handled 987,000 tons of cargo, not much more than the year before, but since perhaps five or six hundred experienced and fit dockers had gone to the war out of a nucleus of about three thousand regular dockers before the war, the influx of less experienced men led to the Port Authority's casualties on compensation rising to 126 men and again four-fifths of the injured were dockers with nearly all the remainder being men in the Engineer's department.

Goods would be 5s. 10d. on a weekday and 3s. 1½d. on Saturdays with in most cases a 4d. return rail fare to be paid. The basic rates, without extras, for Timber men from May 1914 were 7s. a day from Mondays to Fridays and 5s. 6d. on Saturdays. Overtime was paid for at 1s. 6d. an hour. Other employers thought the timber firms had stepped out of line in making this agreement but deal-running was arduous and except for a little work in the timber yards it was usually only for the season from April or May to October or November. Pitch-pine logs were put overside into dock waters and there rafted together to await sale. Rafting earned an extra of 1s. per day, presumably "wet feet money". The General Goods men also received a number of extras for handling unpleasant or inconvenient cargoes—frozen meat, red ores and ochres, spelter, etc. Those working hardby Bristol Bridge on the ice boats from northern latitudes were paid 7s. 6d. a day.

But the little red booklet *Rules, Rates and Conditions of Labour* for grain workers was the one for complexities and extras, a happy hunting-ground for those quayside lawyers among dock workers. It is enough to state here that the grain dayworker throughout the Port received before the addition of any extras a wage of 5s. for a weekday from 8 a.m. to 5 p.m. or for any weekday when he started work before 11.30 a.m. (shades of the parable of the labourers in the vineyard) and 2s. 6d. for a half-day starting thereafter. Saturdays, 8 a.m. to 1.30 p.m., were usually worked for 2s. 6d. but as a minor complexity could rank for 5s. under Alderman Frank Sheppard's award of 1913 if the man had worked a full day on Friday. Ships worth some hundreds of pounds a day on account of their next freight earnings were, and are, often in a hurry to be unloaded and if grain dayworkers worked all night until 6 a.m. next morning they received 9s. for the night's work or for half-night's work until 9.30 p.m. the sum of 4s. 6d.

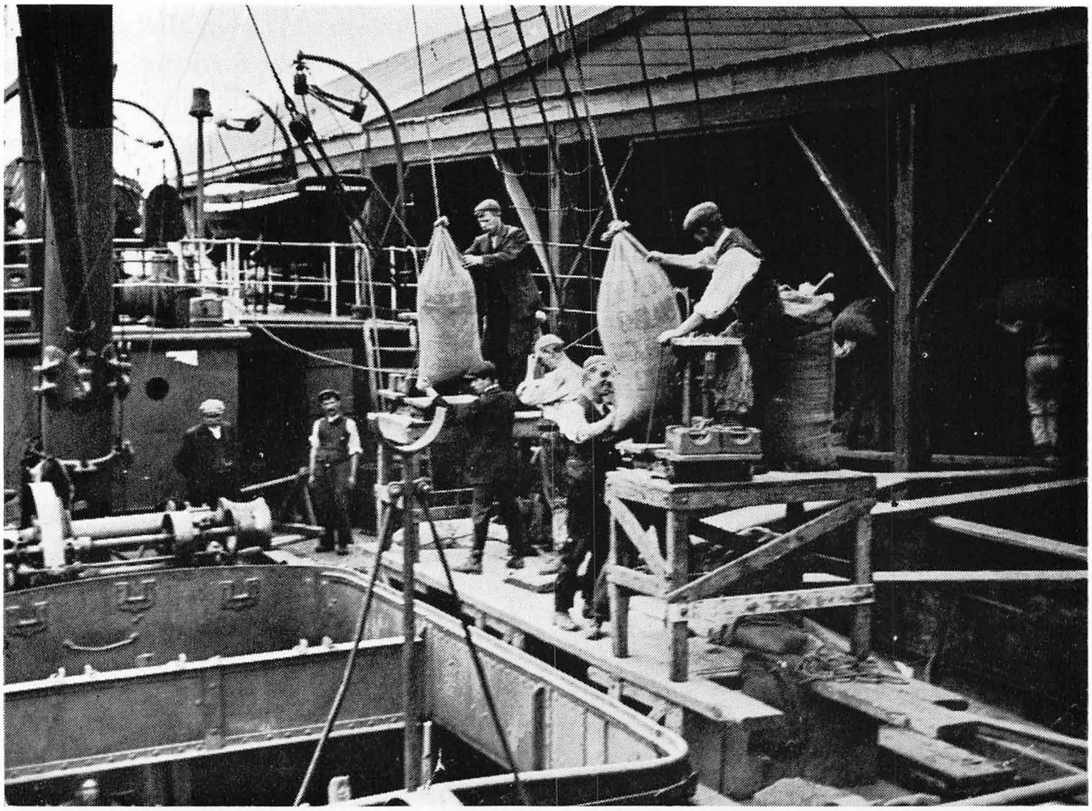
How many days in the week did the casual find work? In a full daytime week, a City docker on General Goods could earn 39s. 4½d. and with house rent at four or five shillings a week, with provident habits and without too many children, such a wage in 1914 could provide quite comfortable living. But except for a preferential docker, friendly with a foreman or with a small employer engaged in the regular coastal or continental trade, that 39s. 4½d. was in most weeks hard to find. At less desirable Avonmouth the illusory full week's pay for "General Goods" during the Long Days was 32s. 2½d. less any railway fares. John Cross, already mentioned, says that before 1914 the casual docker worked on average for two and a half or three days a week. Two things have however to be remembered. These were the days when all sorts and conditions of unemployed men drifted on occasions down to the docks for work. Moreover, many of the casual dockers, as distinct from the drifters, were able to fit in the other two or three days of the week with jobs in the city. It is probably true to say that it was the General Goods work, particularly at the City Docks, which felt the pressure of the city's unemployed seeking work. The timber work was too punishing as a rule for these odd-time visitors; the grain work too was hard and centred around closely knit pieceworkers whilst the easier daywork jobs among the grain would tend to be looked after for and by those whose piecework days were over. Before we see how Ernest Bevin fared in his negotiations let us take a brief look at the grain trade, the greatest of the Port trades, at that time.

Grain and seeds came from overseas in the Port year 1914 to the extent of 910,000 tons which was about half the entire imports of 1,839,000 tons from overseas. Avonmouth took 508,000 tons of the grain, the City Docks 304,000 tons and Portishead 98,000 tons. The Docks Committee did not handle all this grain. It did handle all grain at Portishead Dock and 456,000 tons at Avonmouth, but at Bristol where the Princes Wharf Granary was the Port's one receiving point for grain, the Docks Committee had only broken into the merchants' right to receive their own cargo ashore in the City to the extent of 76,000 tons. These figures come from the 1914 Annual Report. We now look at what was the immemorial way of getting grain ashore from a ship whether it lay in the hold in bags or had been tipped into hold in a golden bulk. For this we go to Avonmouth where the Docks Committee handled most grain although the method at Portishead, at the Princes Wharf Granary and at the rest of the City Docks was much the same. At Avonmouth in the Port year 1914, some 97 per cent of all grain came in bulk and of the bulk grain 53 per cent was worked by hand gangs, 7 per cent by the dock elevator to the Old Granary in the 1877 Dock and 40 per cent by two Mitchell bucket elevators ordered and brought to Avonmouth in 1910 by the pioneering enterprise of the Port's leading stevedores, C. J. King & Sons Ltd.

Of the few bag cargoes many were "started", that is, emptied into bulk in the hold by "bag starters". Hoisting cargo of any commodity in original bags out of hold to shore by crane or ship's winch or derrick needs no description. The traditional way of bringing bulk grain ashore is however worth describing before all witnesses are beyond recall. The key workers in the hold were the bushellers and according to John Cross there were three bushellers to the gang with as many as four gangs in each hold of a large grain ship. As each gang of three set to work upon the level pool of grain within the hold, one busheller held open the sack while each of the other two bushellers plunged a steel bushel into the grain and twice poured the contents into the sack which then held by measurement and not by weight approximately four bushels. The bushel, like the gallon, is a measurement of volume and not of weight. A full bushel of wheat was generally accepted for the purpose of paying wages as being 62 lb in weight, maize as 60 lb, barley 50 lb and oats as 38 lb. Near the bushellers as they worked under the open hatch dangled a hoisting wire from the ship's winch with a steel grip known as a "snorter" at the end. The filled sack secured at the neck was hoisted on deck for weighing and in the illustration here shown the snorter is shown still attached to the sack being brought on to the scale for weighing. The sack was next opened and made up to the exact weight of four full bushels for which purpose an open sack of the same class of grain can be seen near the weigher. We see landers standing near the scales to carry the accurate sackloads across the running planks to truck or to shed. When the ship was working alongside a granary berth, sacks at "catch weights", that is unweighed on deck, were tipped into manholes on the quay to fall into conveyor bands to feed the grain elevators that lifted grain up to granary levels for weighing in bulk before storage. Back in the hold of the ship the sackholder would in due course be doing his stint of bushelling while another of the three bushellers took his turn at sack-holding and a "ploughman" would also now be at work. His task was to drag grain out from the sides of the hold to where the bushellers were busy at piecework rates under the hatch opening. This the ploughman did by attaching the winch wire to a special board which he set down among the grain and on his giving a shout to the winchdriver, the ploughman had to see that the drag pulled the grain in the right direction. We now turn to the earnings of grain pieceworkers.

Up to February 1915 the rates for grain pieceworkers were those agreed in 1911. The arduous bushellers were paid 4½d. apiece for every 100 bushels of heavy grain such as wheat and maize that the gang of three put into 25 sacks and 4d. for every 100 bushels of light grain such as barley and oats. On a good cargo without delays a gang of three men might sack up 2,300 bushels in a day of eight working hours. An average range would be between 1,400 and 2,000 bushels a day. Adverse working conditions such as heated or dusty grain could quickly bring about the familiar procedure of a dispute between union official and employer as to the extras to be paid the aggrieved men in the hold. The weighers at their scales were paid 3½d. a hundred bushels after first weighing 1,000 bushels for 5s. 3d. while the landers who carried the sacks away from the scales and who might be shouldering as much as 248 lb in sacks of wheat would receive 5d. a hundred bushels for heavy grain and 4½d. a hundred bushels for light grain. The ploughman in the hold, the winchman on deck and the man who tied the sacks that had been weighed were dayworkers at 5/– a day under the 1911 agreement.

Truckers, trimmers, bag starters, checkers and samplers were also aboard and about, and many more ashore. We pass them, their wage rates and their conditions by in this plain account of getting bulk grain out of a ship to shore. There is one extra payment well worth a reference. To measure heat in the hold a thermometer was upon complaint hung 3 feet above the bulk grain. If after five minutes it registered over 102 degrees Fahrenheit a fourth busheller was allowed to each gang of three. The four men now in a gang did not receive any



Landing Grain from Ship to Shore

A cargo of grain in bulk has arrived at the Port. Supplies of sacks belonging to merchants or hired by them have been sent down into the ship's hold to be filled with grain by the bushellers. The sacks are then hoisted and put on to a weigher's scale to be adjusted to the required weight from a sack of the same class of grain. The sack is then tied with a sack tie from the bundle on the scale, when a lander shoulders the sack and runs the plank to railway truck, cart or shed as the case may be.

extra money per 100 bushels on the principle that the fourth man would keep the output from flagging and thus each would receive more money than otherwise. The landers who were bearing the full sacks of heated grain from the scales did however get an extra ½d. per 100 bushels. "Mad dogs and Englishmen", sang Noel Coward of life in the Tropics, "go out in the midday sun", but would they bushel at 102 degrees in the dust of a grain ship's hold? The mighty curse in verse nineteen of the third chapter of Genesis had there come true. But strong feelings apart, there had to be those who would go into a hold of heated grain unless the ship was to be left to go up in smoke and flame. Our question is: Were those then in the hold paid enough?

During the closing months of 1914 it began to be said that some of the grain pieceworkers at Avonmouth were earning unduly high wages and in December the Docks Committee asked to know what were the wages of such men in their employ. Ross-Johnson gave their average earnings during four recent weeks.

	Ordinary hours			*Ordinary hours plus overtime and extras*		
	£	s.	d.	£	s.	d.
7 days to 23rd October	2	4	7	3	2	4
7 days to 30th October	2	4	6	2	19	10
7 days to 6th November	2	5	0	3	7	4
7 days to 13th November	1	17	11	2	17	3

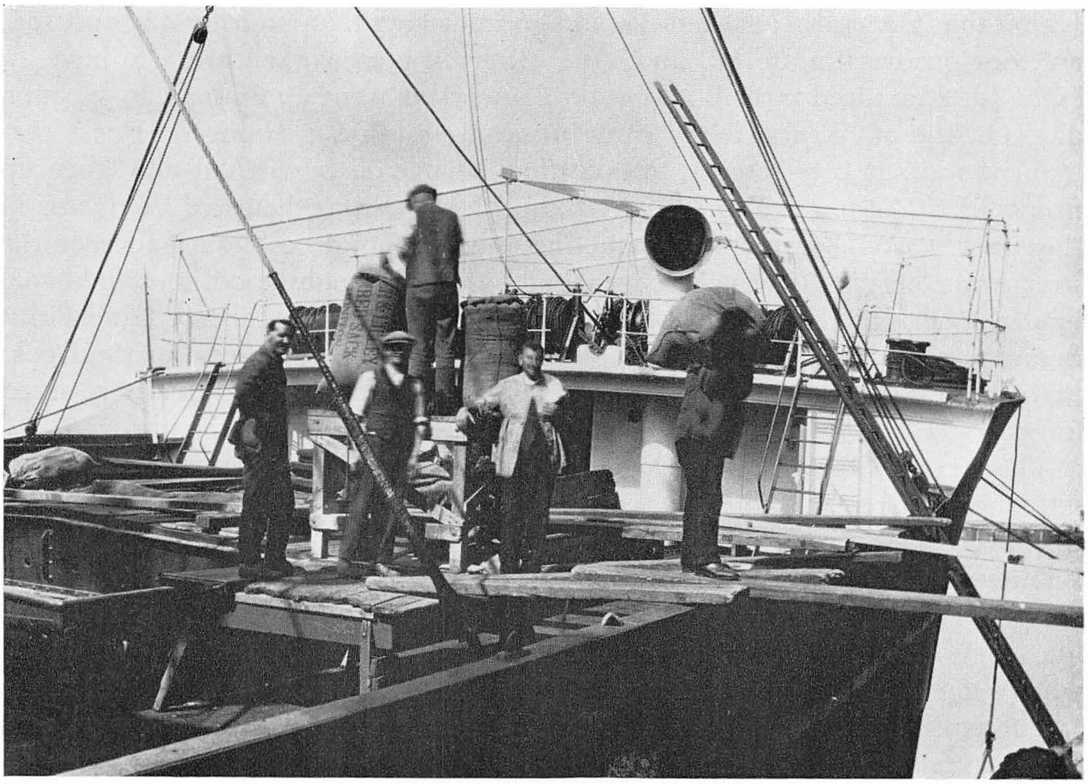
We do not know how many men worked as grain pieceworkers during those weeks or how far their wages ranged on both sides of those average wages. A certain number of men, it was reported, put in a very small amount of work while men who had been willing to work overtime earned up to £5 4s. 4d. a week.

There is however a record of the work done by the 265 grain pieceworkers employed at Avonmouth by the Docks Committee during the week up to the 29th January 1915. It was a week in which trade was more normal than for some time past. Thirty-three of the grain pieceworkers worked for no longer than it took to handle from one to two thousand bushels apiece. The record then goes on to show how many men worked on every additional thousand bushels. Fifty men handled from two to seven thousand bushels apiece, a likely average of 4,600 bushels that week. Sixty-two men handled from seven to twelve thousand bushels apiece which works out an at average of about 9,700 bushels per man. The Traffic Manager reckoned twelve thousand bushels was the normal amount a grain pieceworker would handle in a full week. The next 108 men handled from twelve to eighteen thousand bushels in the week and that averaged out at about fifteen thousand bushels apiece. Then came the really strong men. Three pieceworkers handled up to nineteen thousand bushels apiece, four reached twenty thousand bushels and five heroes dealt with more than twenty thousand bushels apiece. The average quantity of grain handled that January week by the Committee's 265 grain pieceworkers at Avonmouth was about ten thousand bushels a man.

Grain pieceworkers consisted chiefly either of those bushelling grain from bulk into sacks in ship's hold or of those who ran the planks from ship to shore with the heavy sacks. We have no record of the sums paid to those men in the last week of January but the average wage was unlikely to be much different from those in the four earlier weeks already mentioned. The wages earned would also be a man's "take home" apart from the few coppers deducted for Lloyd George's "9d. for 4d." health insurance. Although the cost of living had already appreciably risen by the end of January 1915, a grain pieceworker who took home around £2 a week had in normal domestic circumstances a comfortable wage even though it was uncomfortably earned.

The extent of the time worked by the 537 casual dockers employed by the Docks Committee as dayworkers during the week to the 29th January 1915 has also been recorded. Their tasks would have been mostly on general cargoes landed from ship or delivered from warehouse but much work on grain other than the jobs to be carried out by grain pieceworkers was also paid at daywork rates. January was within the Short Day period when for dayworkers at Avonmouth 50½ hours were worked during the ordinary hours of a 5½-day week. The records show 34 dayworkers worked no more than 10 hours, 60 men between 10 and 20 hours, 61 men between 20 and 30 hours, 51 men between 30 and 40 hours and 106 men from 40 to 50 hours. The rate during ordinary hours was 7d. an hour and the pay in January for a full week of 50½ hours without any payments for overtime or extras was £1 9s. 5½d. Of the remaining 325 men who would nearly all have put in overtime, 130 worked between 50 and 60 hours, 54 men between 60 and 70 hours, 26 men between 70 and 80 hours, 13 men from 80 to 90 hours and 2 men from 90 to 100 hours. Overtime was paid at 10d. an hour so that a man working 90 hours would take home at least £3 2s. 4½d. Sundays carried double pay. The 55½ working hours of the Long Day week which was in force from the 1st March to the 30th November earned £1 12s. 4½d. without any payments for overtime or for any extras that might have been awarded for adverse conditions of working.

The claim of the Dockers' Union on the 1st February 1915 for more pay was collectively considered the following day by the port employers. Ross-Johnson represented the Docks Committee, Charles King the Stevedores Association, Joseph Holman the corn trade, Arthur May, of May and Hassell, the timber trade, Mr. Hulme came from the Steamship Owners Association, Roger Ford of Ford and Canning came for the Cartowners Association and Wynne Jones of the Dominion Line was in the Chair. On the 8th February it was agreed with the



Walking the Plank

One feature of our boyhood reading was the piratical custom of causing surplus persons to walk the plank to the point of no return. Here the walk is being taken as an incident in a docker's daily work. Where this plank ends we do not know, probably on some form of staging, but to carry a sack of up to 248 lb of grain across a whippy plank with an undue drop beneath calls for more strength, skill and courage than most of us have. And would fivepence for carrying twenty-five sacks across have been our price?

Falls from such planks, usually at lower level, together with falls on iron decks and stairways, on cobbles and concrete floors ranked with falling goods as two of the principal causes of accidents. Many dockers of those days wore heavy boots studded with hobnails or steel protectors and that did not help in avoiding accidents on those surfaces.

Union that General Goods men should go up from 7d. an hour by day and 10d. an hour on overtime to 8d. and 11d. All grain pieceworkers were to have an extra ½d. a hundred bushels and grain dayworkers went up from 5s. to 5s. 9d. a day. On the 9th Ernest Bevin came to see Ross-Johnson about the Docks permanent staff. It is of interest to note that Bevin said bread had now gone up from 5½d. a loaf to 7d. and 8d. and that coal, which was then sold from carts in the street, was 1s. 8d. per cwt. About one shilling a hundredweight had been the street price before the war. The writer's household bought good household coal hauled to Bristol East from a stipulated vein in the South Liberty Lane Pit at Bedminster for about £1 a ton. Ross-Johnson offered 2s. a week for the Docks permanent staff. Bevin who had gained the rates he sought for the casuals, asked for 3s.

The next meeting of the Docks Committee left Ross-Johnson to make a settlement. A report came to them on the 1st March and dealt not only with Bevin's request on behalf of the permanent traffic staff but also with the Engineer's negotiations with the engineering unions on behalf of the Engineer's permanent staff. There was no union to put in a claim for the office staffs who like clerks elsewhere ran the occupational risk of "being left behind the door" when wage increases were being won by those who had unions to fight for them.

The tenth and last paragraph of Ross-Johnson's report shows the liberal side of this man's austere mind:

> "There remains for consideration of the Committee the question of its clerical establishment. These men are feeling the pinch of the increased cost of living quite as much as the labouring classes. They have always worked loyally for the Committee and hitherto they have preferred to trust to the sense of justice of their employers rather than increase the power of collective bargaining by forming or joining an existing Union. Other large employers have already recognised the justice of their cause including the other employing Committees of the Corporation and the sympathetic consideration of the Docks Committee is invited to their case. There are 100 clerks between £30 & £156 in all departments and 41 juniors on £30 & below."

After some discussion the Committee granted 3s. per week to permanent staff in the Traffic and Engineer's departments whose pay was over 10s. and not more than £3 a week, and 1s. a week to youths on 10s. a week or less. These rises were back-dated. All clerical staff on salaries over £30 and not more than £156 per annum were to receive 3s. extra per week and juniors on £30 or less per annum were to have a weekly shilling extra from the 1st March.

All the ports in the kingdom were being asked for wage increases and after some comparisons by correspondence were all making their own awards. Likewise they increased their rates and charges to suit their own trade circumstances. At Bristol the Docks Committee put up their labourage charges by

15 per cent and their dues on overseas shipping and cargoes by 5 per cent. At the end of the ninth paragraph of his report on all these matters Ross-Johnson tersely wrote. "Any increase of dues on the coastwise trade is of course out of the question".

So within a month the Docks Committee had given all Bevin had asked. But how little we see the shape of things to come. Bevin had said he had no intention of altering any of the rules during the period of the war and there was a firm understanding that these increases "were of the nature of a temporary emergency allowance to last only while present conditions continue, and then to automatically come to an end". A spiral of inflation was to begin such as had not taken place since the Crimean war when bread rocketed up in price to bring great hardship to the poor or since the Napoleonic wars when amid similar sufferings the Bristol Dock Company found the capital cost of their Floating Harbour enterprise inflated to their lasting detriment. Unlike the aftermath of the Crimean and of the Napoleonic wars the inflationary blaze now beginning was not to be quenched or restrained, except for brief smouldering periods, even up to the present time.

VII

1915:

On Mayday in the Morning

On Mayday mornings there sang at dawn up among the pinnacles of their splendid tower the men and boys of the choir of St. Stephen's, which parish claimed not only a due share of the ancient city but also much of Bristol Harbour together with the waters that covered the earth down to the River Avon's mouth, an eight-mile row for any incumbent; and thence the parish ran some twenty miles down Bristol Channel to the bold island of Steep Holm that may be seen five miles away from the sands of Weston shore. On Mayday mornings too, at later hour, the Port pundits in that eastern half of Queen Square within the ancient parish of St. Nicholas did from 1849 to 1926 begin to tune up for the production of the Port's Annual Accounts for the year that had ended the day before, accompanied since 1878 by an Annual Report to the City Council. In 1927 the Port year was truncated to eleven months so that Port years might forever thereafter, until changed again, end on the 31st March with rehearsals for Annual Report and Accounts beginning promptly and perhaps appropriately on that day when the wise may be traditionally confounded, the First of April. It took the Queen Square pundits in 1915 from the 1st May to the 12th July to produce the Report and Accounts for the year just ended, a year made up of three months of peace and nine months of war. It is not the intention to burden the text with a mass of figures which many may not wish to consider in detail. Accordingly Table 1 at the end of this volume gives the principal trade figures for each Port year from 1914 to 1919 and, as an interesting comparison, for the Port year 1900.

Before looking at some brief figures for the Port year 1915 let us remind ourselves that never before had so much shipping come into the Port from overseas as in the year that ended on the 30th April 1914. A figure of over one million and a half net register tons, steam and sail, was more than for any year in times past. Shipping entering coastwise during the Port year 1914 easily broke all previous bounds by going well over the million tons. Adding the tonnages of the 978 overseas ships and the 8,292 coastwise ships together shows that in the last Port year of peace the figure of 2,623,000 tons was nearly 200,000 tons more than the year before and over one million tons more than in the Port year 1900. Indeed, the total tonnage of all ships coming into the Port had increased every year since ships began to use the Royal Edward Dock in October 1908.

Commerce at the Port had also grown until in the Port year ending the 30th April 1914 imports from overseas were 1,839,000 tons and imports coastwise 1,131,000 tons; exports going abroad were 316,000 tons and exports coastwise 472,000 tons. Government figures for the calendar year 1913 valued the overseas imports through the Port at about £18 million and overseas exports at about £4 million, so that rough-and-ready figures indicate that overseas imports averaged about £10 a ton and exports about £13 a ton in value shortly before the war.

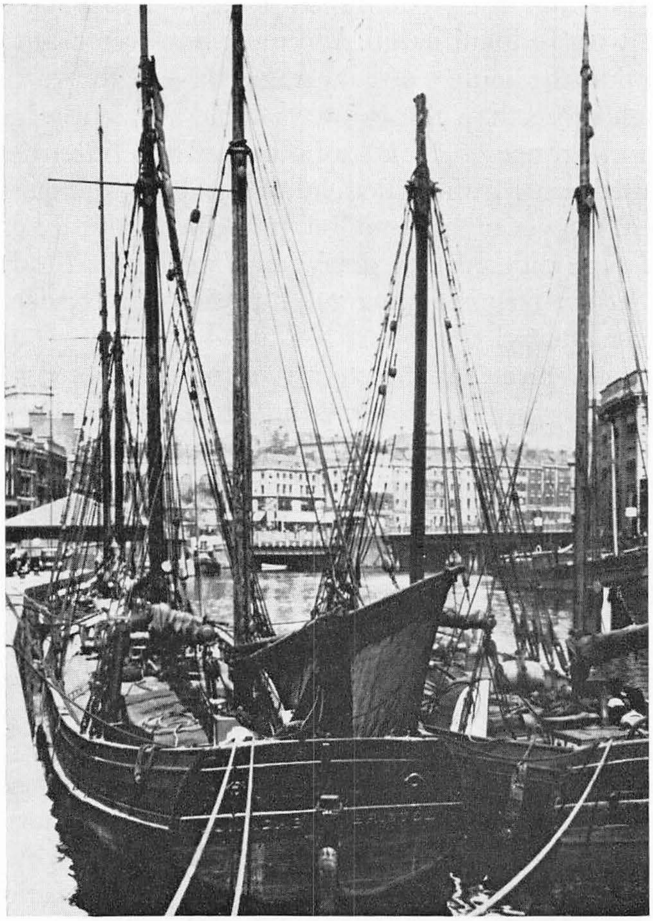
These patterns of peace were now rudely distorted. The first surprise for some Rip Van Winkle who had understandably fallen asleep poring over the Port statistics for 1914 only to be aroused when the 1915 figures were put before him, would be the amazing leap in shipping tonnages—3,872,000 tons net entered for the year ended the 30th April 1915 against 2,623,000 tons for the Port year of 1914. Those of us who have been watching the transports come and go know most of the answer. Whereas the commerce of 1914 caused 978 ships from overseas with a net tonnage of 1,568,000 tons to bring in 1,839,000 tons of goods, only 759 ships of 1,425,000 tons net on commerce bound brought in 1,763,000 tons of goods in the 1915 Port year. Of war traffic 459 ships of 1,477,000 tons net carried in or out of the Port only 167,000 tons of war material and stores including the estimated weight of horses and mules. Requisition by the Government of a large number of British cargo steamships had reduced the number available for commerce. The ships remaining available to commerce for overseas trade were now being loaded more heavily, but commercial imports at the Port had already fallen somewhat even though it had been planned that the Port should during the war take an increased share of inland distribution. The Port of Bristol with other large West coast ports was also due to take cargo ships diverted by wartime dangers from East coast ports or diverted from ports such as Southampton which was given over almost entirely to military traffic.

It now remains to be seen how the great maritime and mercantile trade of the nation had been altered by the problems of the war. In June 1914 Great Britain owned nearly 19 million tons gross of merchant shipping or, roughly, 12 million tons net. In the year up to the 31st July 1914 there entered United Kingdom ports with overseas cargoes 33 million tons net of British shipping and 17 million net of foreign shipping and this 50 million tons of shipping brought in 52 million tons of cargo. The more frequent entries of coastal shipping with cargo for the year up to the end of July 1914 added up to over 37 million tons net. The national figures for coastal cargo during that year are not available, but Fayle states at page 5 of his first volume that the country's coastal traffic was carried almost entirely under the British flag before the war and that the coastal trade carried in and out of United Kingdom ports was about 70 million tons of cargo a year. It will be noticed that the Port year ending on the 30th April and the year ending on the 31st July for which national figures are quoted do not quite coincide but we have to use such reliable national figures as come readily to hand and the two sets of annual figures are near enough in time to show the Port's share of the nation's seaborne trade. In those last great days of Britain's maritime and mercantile supremacy immediately before the 1914 war 3·4 per cent of the overseas shipping coming into the kingdom came to the city's three docks and brought 3·73 per cent of the inward cargo from abroad. Of coastal shipping 2·85 per cent came into the citizens' Port to bring and take out 2·28 per cent of the country's coastal cargoes. By the end of approximately the first year of war on the 31st July 1915 there had already been a dramatic fall in the amount of shipping that came from overseas into United Kingdom ports with trade cargoes. Against the 50 million tons net of shipping that came during the year up to the 31st July 1914 only 35 million tons net entered during the next twelve months of war. These inward bound ships were however more heavily loaded but nevertheless their total cargoes were down from 52 million tons to 45 million tons. We have seen that at the Port in the year up to the 30th April 1914, 978 ships adding up to 1,568,000 tons net brought in 1,839,000 tons of cargo from overseas. In the year to the 30th April 1915 the national decline was reflected at the Port by the arrival of only 759 ships at 1,425,000 tons net bringing in from overseas 1,763,000 tons of trade cargoes. Trade exports overseas from the Port fell from 316,000 tons in the year before to only 181,000 tons. Commerce apart, 459 transports of 1,477,000 tons net carrying comparatively small cargoes had brought in 85,000 tons and taken out 82,000 tons of war materials, stores, horses and mules from the 12th August 1914 up to the 30 April 1915.

The nation's loss of shipping by enemy action was hardly a factor in the big decline of commercial shipping arriving at the United Kingdom's ports since by the 30th April 1915 only 402,000 tons gross had been lost out of 19 million tons gross and to offset this loss 730,000 tons gross had by the 31st March 1915 been built in this country or bought abroad. This happy state of replacement was not to continue much longer. At the Port itself by adding trade and war traffic together the tonnage of ships arriving in the Port year 1915 was nearly double and the inward cargo from overseas was about the same in amount as the year before. We have already seen that by March 1915 about one-fifth of the Port's permanent indoor and outdoor staff had gone to the war and it is likely that at least a similar proportion of dock labourers had enlisted, say 600 of the young and able-bodied out of the 1914 nucleus of about 3,000 casual dockers who regularly sought dock work. This loss of manpower to the armed forces continued but to a lesser degree throughout the war. From the outbreak of war the pressure on the depleted number of staff and dockers at the rivermouth docks was intense. Even so, the throughput of trade cargoes could have been greater if the military, after the rush of the First Movement, together with the new State officials bringing in sugar and so forth, could have been persuaded that a very good way to immobilise a port against incoming shipping was to pack transit sheds and Port warehouses with resident cargo. We must however grant the food officials a partial alibi in that the acute truck shortages showed the vast quantities of war traffic to be much more than the railways could efficiently handle. Moreover, even the limited clearance of dock traffic by rail too often clogged inland rail sidings with loaded trucks and filled inland railway depots with goods once more come to rest. However that may be, it has been said that the congestion of the ports at this time did more to delay ships and limit the import of cargoes than either the heavy requisitioning of ships for war service or the shipping losses caused by the enemy.

It is no surprise to learn that the country's coastal shipping had shrunk from arrivals adding up to 37 million tons net in the year up to the 31st July 1914 to 30 million tons net for the year ending the 31st July 1915. This national decline of 19 per cent in the tonnage of coastal shipping entering British ports was only shared to the extent of 8 per cent at the Port of Bristol. We do not know the extent of the national decline in coastal cargoes but it was said to be very considerable. Coastal cargoes in and out of the Port fell by 13 per cent in the Port year to the 30th April 1915 as compared with the year before. In the twelve months to the end of April 1915 coastwise ships came in on 7,377 occasions so as to add up to a total of 970,000 net register tons bringing in 963,000 tons and taking out 440,000 tons of very varied cargoes. One would have thought that with the railways so overburdened and congested, these wartime years would have yielded a rich harvest of trade and profit to coaster owners and particularly to West coast owners. The opposite happened. We will see why.

In the first place coasters were not exempt from requisition. Colliers were soon taken for carrying bunkers to the increasing fleets of naval auxiliaries which also in turn included many requisitioned coasters. In peacetime the mass of coasters thrived not by trading from small port to small port but as carriers to and from the great commercial ports, twelve of which including Bristol handled 70 per cent of Great Britain's imports. The City Docks swarmed with coasters; Avonmouth the unseen was to the Bristolian the preserve of big ships. But in 1914 coasters brought into Avonmouth 313,000 tons of the Port's coastal imports of 1,131,000 tons and took out from there 143,000 tons of the big ships' cargoes. From the early days of August 1914 berths at Avonmouth were congested with transports and commercial shipping and the transit sheds were stacked with military supplies and slow-moving imports. The coasters were either crowded out or kept uselessly waiting, a very unpaying proposition. Again, even as the overseas ships lost the continental Baltic and Black Sea trades so was there lost to the coasters the East coast trade and much of the London trade which together brought to the Port in 1914 about 73,000 tons net of coastal shipping spread over 169 occasions. The dangers from mines and



Coastal Craft at the Welsh Back, Bristol

Considerable numbers of such sailing craft used to trade around the Bristol Channel. Many did not register with Lloyd's but in the *Register* for 1910 there are recorded 137 small sailing vessels belonging to ninety-five owners domiciled at twenty-two docks, harbours, havens or creeks along the English side of the Bristol Channel and the Severn from Gloucester down to St. Ives in Cornwall.

For the following notes upon the *Jonadab* shown above we are indebted to Mr. Grahame Farr who has researched and written so much upon Bristol Channel shipping.

The *Jonadab* was built as a trow at Newport in 1848 for the coal trade. In 1895 she was rebuilt at Saul near Gloucester and continued in the coal trade as a decked vessel. Her original tonnage was 59 tons and when rebuilt it was 84 tons gross and 68 tons net. When decked, she took coal farther afield and at least once visited Youghal in South Ireland. Owned for many years by John Miles of Bristol and then by Daniel Gower, barge owner of Cardiff, she returned to Ashmeads of Bristol in 1935. By them she was hulked and then towed around with coal, wood pulp, etc. In 1962 the *Jonadab* was laid aside and later beached on the other side of the Severn at Lydney.

enemy raiders along the English Channel and up the North Sea coasts were at first more to be feared than on coastal voyages along the West coast or across to Ireland. Even so there remained good reasons to discourage coastal owners from West coast voyages.

The margins of profit for such owners were usually not more than reasonable in 1914 since although road transport was not yet a threat, competitive rail rates were. On the 4th August the railways of the country were taken over by the Government to be run by a committee of experts. The railway companies were given a guarantee of pre-war profits and the Government decided to freeze railway rates. The owners of coasters had no such guarantee and had to pass on their rising costs which now included a war insurance premium of about 1½ per cent for three months on the value of the ship. There was also cargo insurance of about 1 per cent for each voyage. The railways thus had a competitive advantage and only rail congestion and truck shortage prevented an even more disastrous decline in coaster trading which decline Fayle in his second volume puts at 14 per cent by the end of 1914 and at 25 per cent by April 1915. Many of the experienced coaster crews had by now gone to the war and many small coastal owners decided the risk of the loss of perhaps their only ship was not worth taking. It was better to lay the ship up against some quiet quay "until these calamities be overpast". Many of the small coasters using the Port were becoming venerable by 1914. It was unlikely that such as ship could be appreciably over-insured. The sum received for any loss would therefore be insufficient to meet the rising cost of replacement. Indeed if, as proved to be the case, the Port Authority had despite much supplication to wait until December 1918 before Simons and Company of Renfrew were permitted to use a slipway to build a replacement dredger for that interned in Germany in 1914, what chance did the owner of a small coaster have of getting his means of livelihood replaced? Thus began by our own hand the destruction of the British coastal service. The Germans were already helping that unworthy cause.

It is interesting to note in this context that the contract price in April 1913 from F. Schichau of Elbing for the Port's new suction dredger, commandeered there at outbreak of war, was £38,700, that Simons of Renfrew agreed with reservations in November 1914 to supply a similar dredger within fifteen months for £40,872 and that their revised contract price for this dredger named the S.D. *Severn* and launched on the 26th November 1919 was £95,000, a postwar cost of nearly two and a half times that of prewar days. But in the May-time of 1915 the coaster owner's problems were little more than in bud.

VIII

1915:
The Legions Move

On the first day of January 1915 sugar in the *Spilsby* was still in course of being unloaded when and where practicable at any berth within the Avonmouth Old Dock. Unforgotten in Queen Square was the letter of the 1st December saying the naval authorities would require a complete monopoly indefinitely of four of the six berths in the Royal Edward Dock; but the berths had not yet been taken. The war shipping in December at 102,000 tons net register was nothing out of the way compared with the four months' total from August to November of 399,000 tons and those unexpected August visitors *Beethoven*, *Mokta*, *Trevilley* and *Woodfield* had now with later arrivals *Adenwen*, *Muristan*, *Treverbyn*, *Twickenham* and *Trewellard* become respectable citizens of the Port as they regularly steamed to and fro "O.H.M.S." on their transport occasions, mostly to France and now and again to Gibraltar.

By January 1915 the Port of Bristol remained desperately busy behind the screen of the British Navy. The Port's great assets were the new Royal Edward Dock and the able administration of the Port built up of Bristol men by Ross-Johnson. The Port's great and growing war effort would inevitably have been lessened without either the one or the other. By the end of 1914 the toll levied by German surface raiders cruising upon the oceans of the world had been curbed but beneath the screen of the Royal Navy upon the seas around these islands there was soon to slip the deadlier menace to merchant shipping of the steel-dark German U-boats.

Meanwhile the minds of Britain's war leaders were tormented by the unforeseen spectacle of simultaneous carnage and deadlock on the Western Front. Springtime in 1915 would bring little hope to the Russians who in the first three months of war had lost a million men and a million rifles in disastrous battles on the Eastern Front. Their military supplies were low and the rate of replacement was poor. Even in the West the production of munitions was proving inadequate for the amazing needs of a new kind of war. Some attempt at helping Russia had to be considered. With the Baltic route to St. Petersburg barred and with any hope of entry from the Mediterranean into the Black Sea ended by the state of war with Turkey, long voyages through the Arctic Sea had to be made to Archangel 2,100 nautical miles from London and Liverpool and 1,830 nautical miles from Leith. A sea mile of 6,080 feet can be reckoned as about 15 per cent more than the British and U.S. statute or land mile of 5,280 feet. In two months of war there had been crammed into the insufficient port of Archangel the weight of imports of a normal year and not only did the usual confusion and congestion of war occur but when at last seaborne supplies had been landed, there followed a sluggish railborne journey of about 700 land miles to St. Petersburg or to Moscow. A total journey of about 3,100 statute miles by sea and land had been entailed from London or from Liverpool and about 300 miles less from Leith. By the direct peacetime route through the Baltic, St. Petersburg was 1,368 sea miles from London and 120 sea miles less from the Tyne.

Thus to ship munitions through inadequate Archangel in 1914 meant 700 more sea miles of hard voyaging and 700 more land miles over an inadequate Russian rail route. Normally the port of Archangel upon the White Sea was closed by ice after about the 20th October but in 1914 icebreakers brought from Canada kept the port open until December when the before-mentioned Russian Generals January and February began to exercise their inevitable sway. In 1913 the 235-foot Norwegian *Malmanger*, 1,454 tons gross and 866 tons net, was the last steamer to enter the Port of Bristol from Archangel that year and this ship docked at Portishead on the 4th November with a cargo of timber of which 444 tons was deck cargo. In 1914 the last cargo from Archangel came to the City Docks as late as the 11th December in the Norwegian steamer *Klosterfos* of 1,649 tons gross and 978 tons net.

So while military minds in France were thinking of wired defences in depth and of assault by human battering rams, war leaders in London were thinking of shortening the war by campaigns elsewhere and at the same time considering ways of greater aid to Russia. With the port of Southampton and cross-channel ports much engaged in the endless ferrying of troops to France, a strategy of distant campaigns had implications the extent of which was as yet unknown to those of the furrowed brow at the Port of Bristol. To them it would appear that the naval letter of the 1st December was certainly taking time by the forelock.

The *Spilsby* affair ended on the 20th January by which time 5,358 tons of sugar from Mauritius in 78,000 bags had been discharged in 31 days, a daily rate of 173 tons. Figures prepared for Ross-Johnson showed that before the war 47 steamers in 318 berthing days unloaded 225,727 tons of cargoes, an average of 709 tons a day. It has been alleged that congestion at British, French and Italian ports was, even more than the requisition and loss of ships, one of the main causes of the shortage of shipping at this time and that port congestion probably reduced the effective carrying power of ships by perhaps 20 per cent. The general situation at Avonmouth confirms a conclusion on those lines and we go further to say that the congestion at Avonmouth as elsewhere was caused not only by the gross and unavoidable overworking of the Port facilities and by

PORT LOCOMOTIVE, ROYAL EDWARD DOCK

THE STEAM LOCOMOTIVE "BRISTOL" (0–6–0, saddle-tank type) was built by the Bristol firm of Fox, Walker & Co. in 1873. In September 1914 the Port had twelve locomotives for hauling traffic over its extensive railway system at the Avonmouth Docks and two locomotives for its railway system at Portishead Dock. The loco "Bristol" was to remain in Port service for many more years. At the outbreak of war the Port owned 286 railway trucks for internal use at the Avonmouth Docks.

Already in September 1914 there was great pressure of work on the Port locomotives at Avonmouth. In the peacetime year ending on the 30th April 1914 the Avonmouth locomotives hauled 888,595 tons and on average, after allowing for maintenance and repairs, etc., $8\frac{1}{3}$ locomotives were on duty each day. During that year 31,858 running hours were worked.

In September 1914 two new locomotives were purchased, one from the Avonside Engine Co. for £1,145 and another from Peckett & Sons for £1,180. Both were Bristol firms. One of the twelve Avonmouth locomotives was then transferred to Portishead. In June 1915 two locomotives were purchased from Avonside for £1,295 apiece, one for Avonmouth, the other for Portishead. Two further Avonside locomotives were ordered for Avonmouth in mid-1917 at the price of £1,950 apiece with a delay of six months before delivery, but upon delivery the bill for the two locomotives had risen by another £345. Thus the cost of an Avonside locomotive had risen from £1,145 in September 1914 to £2,122 by the middle of 1918.

the loss of too much skilled and knowledgeable labour, but also by the initial mistake of the military in stacking transit sheds with standing stores and later by the inability of inland transport to take away commercial goods in order to clear dock sheds for the quick movement of incoming cargo. We must not think the Port was a notably bad example of commercial congestion. If we use the telescope instead of the microscope we shall see that at Liverpool in this mid-January there were 100,000 tons of Government sugar awaiting clearance, six ships with cargoes of sugar waiting to be unloaded and on one day there were forty-five ships awaiting berths there. London was now taking diversions from East and South coasts ports as well as from the Continent and there were forty-three ships awaiting berths at Gravesend in early January.

In the middle of the *Spilsby* affair and the chronic congestion of both wharves and sheds at Avonmouth, Mars decided to assert his authority. Six large transports came into the Royal Edward Dock on Sunday the 10th January. They were the *Alaunia*, 13,405 tons gross, 8,261 net and 520 feet in length, the *Corsican*, 11,419 gross, 7,272 net and 500 feet in length, the *Dongola*, 8,051 gross, 4,737 net and 470 feet long, the *Grantully Castle*, 7,612 gross, 4,798 net and 450 feet long, of which we shall hear more, the *Somali*, 6,708 gross, 4,225 net and 450 feet long and the familiar *Royal George*, 11,146 gross, 5,685 net and 525 feet in length. On Monday the 11th a seventh transport the *Dilwara*, a British India Steam Navigation ship, 5,378 tons gross, 3,460 tons net and 425 feet in length, arrived. The total length of these seven transports was 3,340 feet so that when all were berthed more than three-quarters of the quayage at the Royal Edward Dock was occupied. At that time the Royal Edward had 4,392 feet of quayage. It is true the Avonmouth Dock, linked to the Royal Edward by the Junction Cut 85 feet wide with a 30 foot depth of water, had 4,800 feet of quayage but we have seen the state of congestion there. That the rambling City Docks had 14,700 feet and Portishead Dock 2,829 feet of wharfage is hardly to the point for ships of the size now using the Royal Edward Dock. "The arrival on Sunday and Monday", it was reported to Docks Committee, "of seven large steamers bringing home troops and families and followers from India threw a great deal of work on the dock staff." The seven transports had sailed from Bombay and Karachi on the 9th and 10th December and brought home five battalions of British troops and many hospital staff. Aboard the ships were 6,792 officers and men together with 2,911 women and children.

To disembark or to embark such a number of troops without undue delay needed the most detailed planning. The naval authorities had in the first place to plan the arrival of the ships within a limited time, preferably before high water, according to the depth of water on the lock sill that tide and according to the size and draught of the ship. As a general guide to readers, at least 2 feet 6 inches of water would be desirable under the deepest part of the keel of a fairly large ship. Tide tables for the Port showing both time of high water and predicted height for every tide are published annually and are based on the calculated predictions of the Liverpool Tidal Institute, but as the grey hairs, soon or late, of every dockmaster show, a wind from the west can add feet to the local prediction as surely as a wind from the east can cut feet from the expected height. The responsibility for accepting or refusing any ship through the lock rests with the Port's dockmaster on duty at that lock on that tide and with no other person. Military authorities, railway companies and the Port had compiled a programme to take the incoming passengers inland. By Sunday evening the railway companies had carried out their first duty by bringing the first batch of rolling stock to the Exchange Sidings that lay on the landward side of the Docks. To these sidings the Port's locomotives went to haul and marshal in required order the carriages, trucks and so forth upon the quays alongside the transports or at the rail platforms at the rear of transit sheds. From 4 o'clock in the morning on Monday the 11th January until midday on the following Wednesday the locomotives of the Port Authority hauled 22 trains with a total of 298 railway carriages, trucks and vans from and then back to the Exchange Sidings where the railway companies' engines awaited to take those returning from India to Nuneaton, Southampton, Brighton, Oxford, London and Bristol.

"The troops were despatched in accordance with a pre-arranged programme", the Docks Committee were told. No doubt; but the bustling scenes were filled with burdened soldiery, with pathetically transplanted women and children carrying some of their belongings and anxiously wondering where the residue might be. "Very few of our shunting engines were available for ordinary work on the Monday and Tuesday and the requirements of both merchants and tenants (industrial tenants such as millers, etc.) suffered somewhat. At the time in addition to the troopships", Ross-Johnson's report continues, "there were several other large steamers in the Dock and the tonnage figures for Tuesday the 12th January constitute a record, namely, 24 overseas ships of 80,320 tons net and 29 coastwise ships of 3,141 tons net". These shipping figures cover both the Royal Edward and the Avonmouth Old Dock where unusually a grain ship was moored at dolphins in the middle of the Dock and discharged her cargo to craft alongside. The troop transports had all been berthed in the Royal Edward Dock. Two more groups from garrison life in India were yet to arrive at the Port. On the 1st February the *Devanha*, 4,785 tons net, brought 1,472 officers and men with women and children. In the middle of March three large transports, the *Caledonia*, the *Aragon* and the *Saturnia* of which we shall hear again, arrived by the usual Mediterranean route. The three ships brought 684 officers and men with women and children and a large quantity of ordnance and stores. To add to the other cares of the voyagers there were about a hundred cases of measles aboard the *Caledonia* and the *Aragon*.

In his report to the Docks Committee on the 25th January the General Manager also said: "During the next fortnight the demands on our accommodation are expected to be heavy." Even so it was. On Sunday the 7th February the first four troop transports entered the Royal Edward Dock of the twenty-one ships which were to take overseas a Canadian division by the evening of Thursday the 11th. On Sunday the first of 92 trains consisting of 2,093 loaded railway carriages, vans, horse boxes, cattle vans and open trucks was hauled in from the Exchange Sidings to embarkation berth. By Thursday evening 18,023 officers and men, 5,031 horses, 44 guns and limbers, 738 wagons, 682 cycles and so forth had gone aboard. The berths at Sheds P, Q, R, S and T were used for this movement. The train programme was brisk and efficient and train arrivals at berth gradually moved ahead of schedule. The twenty-one ships totalling 89,183 net register tons were between 400 and 500 feet in length and a number sailed each day from the 9th to the 12th. Their destination, unlike that of the star-crossed expedition of which we tell next, has not been shown by Port research but may well have been France where their presence would leave the magnificent 29th Division, consisting of eleven regular battalions and one Territorial battalion, at that time in reserve in England free for adventure elsewhere.

It was not however the 29th Division or any part thereof that next came to the Royal Edward Dock. In the Port Arrival Index on the 13th February 1915 there stands an entry "Grantully Castle—Transport O.H.M.S." and quick as light came recollection of reading fifty years ago a memoir on a "New Georgian" poet. Memory recalled where that ship was going and those who would be aboard by the end of the month.

At the outbreak of war Winston Churchill was First Lord of the Admiralty in the Asquith cabinet. Then, as later, he abounded in ideas, not all of which were to the liking of his professional advisers. One of his lesser projects was the formation of a land force under the direction of the Admiralty. The new force was styled the Royal Naval Division and into its battalions named after Anson, Drake, Hood, Howe and Nelson were drafted a miscellany of men including Royal Marines, unallocated naval reservists and stokers. Many among its officers were brilliant young men with university and literary associations. Arthur Asquith, son of the Prime Minister, was given a commission. Rupert Brooke, aged twenty-seven and already establishing a poetic reputation as one of the Georgian group, accepted in September the offer by Winston Churchill of a commission in the Royal Naval Division. On the 27th September Brooke left London and civilian life to become Sub-Lieutenant in charge of the thirty men who made up the 15th platoon, D Company, of the Anson Battalion. These gay and idealistic young officers, leavened with professionals, certainly brought enthusiasm to the five battalions named after the naval personages.

There were adverse opinions about the Royal Naval Division in both the Army and the Navy. It is, indeed, difficult to see the special function of such a formation as distinct from that of an infantry battalion or a battalion of the Royal Marines. Robert Rhodes James records that Captain Richmond, Churchill's Assistant Director of Naval Operations, described the Royal Naval Division as "foolery" and "Winston's tuppeny untrained rabble". As early as the 5th October the undertrained Royal Naval Division crossed to Dunkirk *en route* to Antwerp in a vain endeavour to hold the port and only a rapid retreat back across Belgium to Ostend and thence to Dover enabled them to escape encircling disaster.

And now on the evening of Saturday the 27th February 1915 the five battalions named began to arrive by train from Salisbury Plain for embarkation at the Royal Edward Dock. There also came the Portsmouth and Deal battalions of the Royal Marines and these apparently had been drafted into the Naval Division. For their reception the *Gloucester Castle* of 7,999 tons gross and 4,999 tons net was berthed at Shed T, the *Royal George* at Shed P and the *Grantully Castle* at Shed S. The *Alnwick Castle*, 5,900 tons gross and 3,000 tons net, the *Somali*, 6,712 tons gross and 4,193 tons net, and the *Cestrian*, 8,912 tons gross and 5,787 tons net, were also within the Dock. The destination of the Royal Naval Division was the Dardanelles.

Churchill was the great advocate in the cabinet of the forcing of the Dardanelles. To capture Constantinople, to destroy Turkey as a German ally and to open a way to the Black Sea ports for military supplies to Russia, these were the objectives. It was a campaign destined to last from the 25th April 1915 to the 9th January 1916. It is a campaign that has never ceased to arouse amazement and controversy. It is not so much that there were probably 150,000 dead out of the total of the half a million casualties of both sides in the eight and a half months of hell upon the bare beaches and barren stony hills of Gallipoli, since the massed slaughters of the eastern and western European fronts submerged such figures; it is not even the provoking contemplation of what victory and aid to Russia might have averted in world history, it is rather the endless naval and military vicissitudes and lost opportunities that plague the mind as it broods over that monstrous campaign where such amazing bravery and endurance were shown by the fighting men of both sides amid the ifs and buts of mischance and ineptitude. It is not our intent to record or much discuss what happened at Gallipoli. Our concern is with those strenuous wartime years at the Port, years already legendary but remembered for the most part by vague generalities. Bristolians indeed neither had nor have they since had much more opportunity than bald figures afford of knowing what went on within the guarded gates and fences of the Avonmouth Docks. Even those within the Port knew little more unless their daily work took them about the Avonmouth quays or they were of the select few who were occupied with the confidential papers.

At five minutes to eight on the evening of Saturday the 27th February the first train of 10 coaches and 17 vans and trucks was hauled by dock locomotive from the Exchange Sidings and arrived alongside the *Gloucester Castle* at Shed T near the Royal Edward Entrance Lock. The train brought 8 officers and 326 men of the Portsmouth Battalion of the Royal Marines from Shillingstone on Salisbury Plain. Two more trains were hauled alongside before midnight and altogether there went aboard the *Gloucester Castle* that night 25 officers and 899 men of the Portsmouth Battalion with 97 horses or mules, 31 wagons and 7 cycles. The Portsmouth Battalion had been engaged in hard fighting at Antwerp. They now sailed in the *Gloucester Castle* on the morning tide of Sunday the 28th to new perils that were as yet three thousand sea miles distant.

The *Grantully Castle* had moored at Shed S near the Royal Edward Lock on that Saturday evening and a train from Shillingstone was brought alongside at half-past eight. This train of 10 coaches and 13 vans and trucks brought 9 officers and 291 men of the Hood Battalion of the Naval Division to which battalion Arthur Asquith and Rupert Brooke had by now been transferred. The train was empty by 9.25 p.m. Two further trains came in at 10.15 p.m. and at 20 minutes after midnight. By 1.05 a.m. on Sunday the 28th both trains were empty and altogether 33 officers and 924 men of the Hood Battalion went aboard the *Grantully Castle*. With them went 101 horses and mules, 25 wagons and 12 cycles. At 2.25 a.m. the first of three further trains from Shillingstone came alongside with Brooke's former comrades of the Anson Battalion. It was 6.40 a.m. before the last train was cleared and altogether 32 officers and 936 men of the Anson Battalion with 106 horses or mules and 32 wagons went aboard. The 2nd Brigade Staff also came aboard. Horses and mules are not desirable shipmates. This Union Castle liner was 450 feet long, 57 feet in width with a hold depth of 30 feet and had been converted to transport purposes. With 1,925 men and 207 horses or mules aboard, the *Grantully Castle* was uncomfortably full and a considerable amount of equipment was lashed down on deck. The *Grantully Castle* sailed on Sunday the 28th February. Violet Asquith was on the quay to wave farewell to her brother Arthur and to Rupert Brooke.

By the morning of the 28th the *Royal George* at Shed P had taken aboard from three trains 10 officers and 865 men of the Howe Battalion as well as the 1st Field Ambulance together with 105 horses and mules and 25 wagons. The *Alnwick Castle* took aboard the Deal Battalion of the Royal Marines and the 2nd and 3rd Field Ambulances with a large number of mules and wagons. These ships also sailed from the Royal Edward Lock on Sunday the 28th February. On that day the *Franconia*, a Cunarder of 18,150 tons gross and 11,247 tons net, 600 feet long and 71 feet in breadth with a depth of hold of 40 feet, entered the Dock and berthed at Shed T immediately to the north of the inner lockgates. Aboard this ship there went from seven trains from Blandford 73 officers and

1,887 men of the Drake and Nelson Battalions as well as Divisional Headquarters of the 1st Brigade. There were also shipped 223 of the inevitable horses or mules, 55 wagons, 4 guns and 21 cycles. The 1896 *Cestrian*, a Leyland ship of 8,823 tons gross and 5,753 tons net, loaded the "Divisional Train" which came in or on two trains from Blandford. The 1901 *Somali*, a Peninsular and Oriental steamship of 6,708 tons gross and 4,225 tons net, took the 1st and 2nd Field Companies and Headquarter Staff and also the Cyclist Company, a total passenger list of 20 officers and 547 men. There were 272 cycles put aboard with 11 wagons and 137 horses and mules. Cyclists would find it rough going on Gallipoli.

The *Somali*, the *Cestrian* and the *Franconia* sailed on Monday the 1st March. The railway programme had provided for 31 trains to arrive between 8 p.m. on Saturday and 4 p.m. on Monday and the programme was duly kept. The rolling stock hauled to and from berth by Port locomotives amounted to 236 coaches, 39 vans, 6 horse boxes, 194 cattle wagons, 53 covered and 203 open trucks. The seven battalions of the Royal Naval Division numbered with auxiliary services 249 officers and 7,746 men and with them went 1,168 horses and mules, 4 guns, 241 wagons and 361 cycles. No record has been found of the tonnage of stores loaded aboard the ships that took the Royal Naval Division from the Royal Edward Dock.

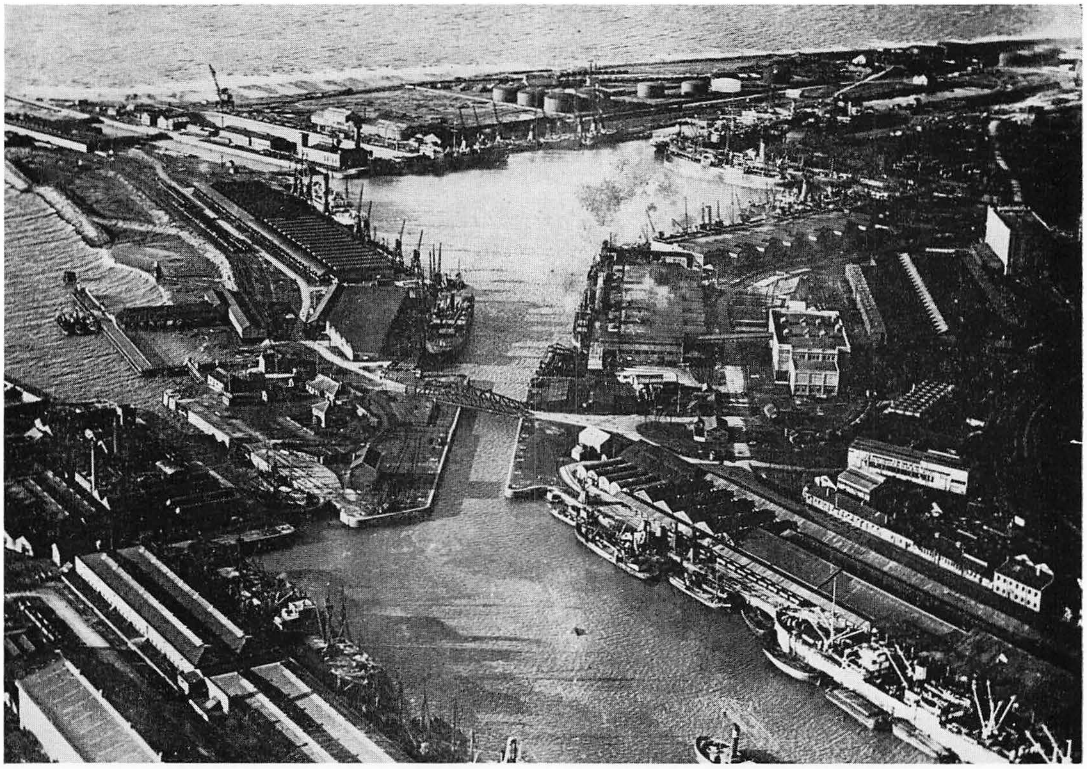
In peacetime the world-wide movement of our ships can be traced through the great daily shipping papers such as *Lloyd's List*. In wartime, once out of sight from the Royal Edward piers, the transports sailed over the edge of our blinkered world. But the *Grantully Castle* out from Avonmouth on the 28th February had a young man aboard whom fame and fate were soon to mark. The journeyings of celebrities are tracked to an extent which lesser mortals are spared. Thus we know that on the morning of the 8th March the *Grantully Castle* anchored off the Fish Quay at Malta 2,138 sea miles away. The following morning the *Grantully Castle* sailed for her first rendezvous 670 sea miles away in the great natural harbour of Mudros at the Greek Island of Lemnos in the Aegean Sea. Mudros, 50 sea miles off the mouth of the Dardanelles which is in turn 135 miles from Constantinople, was reached on the evening of the 11th March. Within the next few days it became clear that the ship's cargo would have to be unloaded and restowed. We shall later learn that practically every transport from Avonmouth had its cargo loaded upside down. What the troops would immediately need for their bitter landings was at the bottom of the holds and what they would not want for three months was on top. The magnificent bay of Mudros was quite devoid of spacious wharves and cranes and all those facilities that large and laden ships need for the unloading and restowing of mixed cargo. Restowage on such a scale would have been a laborious and frustrating business even had the ships been alongside the quays and sheds of a well-equipped British port.

On the 24th March the *Grantully Castle* set out from Mudros and in four days the Royal Naval Division disembarked to camp amid wind-swept sand near the docks at Port Said, 650 miles south. On the 10th April restowage accomplished, the *Grantully Castle* without the Ansons steamed north towards the now congested Mudros Bay but was diverted to the island of Skyros some 60 miles south to anchor on the 17th April in Trebuki Bay with the other Royal Naval Division transports. Brooke had contracted dysentery and fever while in Egypt. Within the next few days at Skyros his condition grew worse. He died late in the afternoon of the 23rd April and was buried that night on Skyros. By early morning on the 24th the *Grantully Castle* was sailing north from Skyros towards Gallipoli for the dawn attacks of the 25th April.

Gallipoli is a narrow and rugged peninsula some fifty miles long and little more than ten miles across at the widest point. It is on the European side of the Dardanelles, a seaway some two miles wide on average. The weight of the landing attacks made with murderous losses at dawn on the 25th April was mostly around the tip of the peninsula at Cape Helles and Sedd-el-Bahr and at points up to fifteen miles along the outer north-west coast of the peninsula. The Royal Naval Division were however assigned a special and lighter task upon that day. Their transports with covering warships and auxiliaries, some twenty ships in all, carried them fifty miles beyond the tip of Gallipoli along the north-west coast to cause a diversion in Bakla Bay near Bulair where the Gallipoli isthmus joined the mainland of Turkish Europe and was no more than three miles wide. Under continuous covering fire from the warships the operation was carried out with courage and ingenuity so much so that General Liman von Sanders, the German commander of the Turkish defence, remained there all day with two divisions before deciding in the afternoon that he was watching a diversion. The diversion over, the Naval Division later became available for the main conflicts on the beaches nearer the point of the peninsula.

No sooner had the last of the seven ships borne away the Royal Naval Division on the 1st March than the routine transports to and from France crowded into the Royal Edward Dock. Two more large transports soon arrived. The Atlantic Transport liner *Minnewaska*, 14,317 tons gross and 600 feet in length, came in on the 4th and sailed on the 5th March with 1,100 officers and men who had arrived on the morning of the 4th at Shed T with 47 vehicles and 1 horse. On the 7th there arrived another Atlantic Transport liner the *Minnetonka* of 13,528 tons gross and also 600 feet in length to take aboard on that day and the next 21 officers, 665 men, 127 horses, 767 mules and 181 wagons. The regiments to which these men belonged are not known but for ships of this size Lemnos or more probably Egypt would seem the likely destination.

Lord Kitchener, Secretary of State for War, had after much argument with Churchill told the War Council on the 16th February that he now agreed the 29th Division, the last division of regular troops in England, should be sent to the island of Lemnos for the assault on the Dardanelles. To Churchill's



The Avonmouth Docks

There are maps of the three dock systems of the Port in 1913 towards the end of this book but aerial photography developed during the war and gives visual detail that a map cannot. This aerial photograph was taken in the early 1920's by which time little material change had taken place at the docks.

In the foreground is the older Avonmouth Dock which was not involved in the embarkation of either the Royal Naval Division or the 29th Division. The Junction Cut, crossed by a swing-bridge with railway lines, leads the eye to the Royal Edward Dock. Immediately on the right is Shed O and on the left Shed R. Ahead lies the principal water area where large ships may swing. Adjacent to Shed O on the right is Shed P. Looking over and beyond Shed P is the North Wall for ships lying up and under repair. It was in that corner of the dock that troops of the First Movement found their concrete bathing beach. Beyond Shed R on the left of the Junction Cut is a thousand-foot straight length of quay backed by Shed Q and nearer the Royal Edward Entrance Lock by Shed S. Crossing over the inner lockgate and the caisson forming the entrance to the Dry Dock we come to Shed T ideal for embarkation with six lines of sidings upon the quay in front of the shed. The arm of the dock beyond Shed T was the Oil Basin.

surprise Kitchener revoked this decision three days later on account of likely dangers in France. It was March the 10th before Kitchener told the War Council that the 29th Division was now under orders for Lemnos. The first detachment arrived by rail from Coventry to go aboard the 400-foot *Mercian,* 6,305 tons gross, at Shed S at 7 o'clock in the evening of Monday the 15th March. This arrival at the Port within five days of the 10th March seems excellent. In fact like all the haste to get to the Dardanelles it was disastrous. A number of large transports to take the 29th Division to Lemnos had been assembled at the Port in mid-February only to be dispersed. Now another set of large ships had to be brought together. The embarkation that now began in mid-March was so rapid and the stores, apart from those brought by the military themselves, came in from various suppliers over so short a period that any sorting was impracticable. It had to suffice that what came for the expedition was put aboard one or other of the ships. The way that trainloads of troops were brought to quays and sheds to go aboard has already been described and similar arrangements were made for the departure of the 29th Division in the days from the 15th to the 22nd March. In their departure we are watching the same calibre of professional soldiers as those who fought in the early days of the war to stem the German advance but both the 29th and their commanders were going to a proposition of a type and on a scale well outside the range of their experience.

These ships that at dawn on the 25th April 1915 were for the most part to bring the troops close to the deadly shores were the *Mercian, Haverford, Ausonia, Alaunia, Canada* and *Kingstonian*; *City of Edinburgh, Andania, Marquette* and *Dongola*; *Campanello, Arcadian, Tintoretto, Verdala, Manitou* and *Aragon*; *Caledonia, Harmatris, Southland* and the *Knight of the Garter.* The twenty ships that were taking the 29th Division to Mudros had an average size of 8,000 tons gross and 5,000 tons net. The largest were the Cunarders *Alaunia* and *Andania,* each of 13,405 tons gross. Much the smallest was the *Southland,* 2,081 tons gross.

During the evening of Monday the 15th March, the *Mercian,* a ship of 6,305 tons gross that had entered the Port the previous day, took aboard from two trains from Coventry the headquarters of an Infantry Brigade, a Signal Company and transport for the 89th Field Ambulance consisting in all of 12 officers and 158 men with 232 horses and 34 wagons. No record has been traced of the tonnage or nature of the stores that were loaded into these transports. In general, Port locomotives brought the trains to the rear platforms of sheds in front of which transports were berthed. The soldiers arriving on a train unloaded into shed the contents of the railway trucks and wagons and helped the dockers to bring the equipment and stores on to the quay in front of the shed as required. The work of securing loads to be hoisted aboard either by dock crane or ship's gear would be carried out by dock labour and the stowage of this cargo in hold or on deck would be the responsibility of the dock stevedores accustomed to this class of work. The perils of cargo shifting within a ship's hold on voyage, not to mention the risk of an army wagon or piece of artillery breaking loose, called for care and knowledge in the task of stowage. Victor Hugo in *Ninety-Three* describes the terror of a ship's gun rolling at large on one of the lower gun decks of a Napoleonic man-of-war at sea. On the matter of stowage at the Royal Edward Dock in March 1915 more will yet be said. It is not known whether the *Mercian* or any of the twenty transports that were to sail from the Royal Edward Dock went in convoy, under escort or alone. The *Mercian* had left her berth at Shed S well before quarter past six on Tuesday evening when a Port locomotive hauled in the first train for the next ship.

The International Navigation Company's ship *Haverford* of 11,635 tons gross with a length of 531 feet arrived in the Port on Monday the 15th and berthed at Shed R. Eleven trains for the *Haverford* came and went between 8.7 p.m. on Monday and 3.50 p.m. on Tuesday. By these trains came three batteries and ammunition column, the headquarters of the Royal Horse Artillery brigade and about a third of a battalion, being 11 officers and 348 men of the Munster Fusiliers. The embarkation numbered 33 officers and 968 men with 752 horses, 77 wagons, 10 guns and 1 cycle. The *Haverford* loaded up and left her berth in under twenty-four hours. Cunard's 1909 *Ausonia* of 7,907 tons gross had been in Port waters within or without the Royal Edward Dock since Friday the 12th. At 9.15 on the evening of Monday the 15th the ship lay at Berth T when the first of four trains from Coventry and Kenilworth came in. The last train departed empty from this berth at 6.15 a.m. on Tuesday morning and by then there had arrived 29 officers and 1,009 men of the 1st Battalion of the Royal Dublin Fusiliers and 9 officers and 314 men being another third of the battalion of the Munster Fusiliers with 117 horses and 59 wagons. The *Ausonia* was also loaded in haste since she was gone from her berth in less than twenty hours.

Of the Munster battalion the last third numbering 9 officers and 343 men went aboard the Cunard Line's *Alaunia*, 13,405 tons gross and 520 feet in length, at Shed P. The *Alaunia* had also been at the Port since Friday the 12th. It is to be wondered how much confusion the similarity of the names *Ausonia*, *Alaunia*, not to mention their companion *Andania*, caused in a campaign where confusion might almost seem to have been the unguiding principle. However, at Shed P at 36 minutes after midnight in the early morning of Tuesday the 16th March the first train arrived for the *Alaunia* and by a quarter-past noon the same day the seventh and last train for that ship had departed empty. By 11.19 p.m. that Tuesday night the Cunard's twin liner *Andania*, also 13,405 tons gross and 520 feet long, had taken over the berth of the *Alaunia* and the first trainload for the *Andania* had arrived. Meanwhile, in addition to the last third of the Munsters, 27 officers and 1,070 men of a battalion of the Royal Fusiliers and

29 officers and 1,025 men of the 1st Lancashire Fusiliers had gone aboard the *Alaunia* that bore away in all 65 officers, 2,438 men and with them 209 horses and 92 wagons. The Munster battalion was now split up over the three ships *Haverford*, *Ausonia* and *Alaunia*. We look before and after in remembering the three witches of *Macbeth*.

"FIRST WITCH: When shall we three meet again
In thunder, lightning or in rain?
SECOND WITCH: When the hurly-burly's done,
When the battle's lost and won.
THIRD WITCH: That will be ere the set of the sun."

Now a battalion can re-form by walking together on suitable terrain, but to put together again from widely separated ships the component parts of military equipment, such as guns and their appropriate shells, machine guns and their type of ammunition, was to be found to be quite a different problem.

To the Royal Dublin Fusiliers, who sailed from the Royal Edward Dock aboard the *Ausonia*, fell the terrible assignment of being the first to go ashore at V Beach, a small semi-circular beach quite near and south-east of Cape Helles, the point of the Gallipoli peninsula. V Beach was dominated on the invaders' right flank by the ruined cliff-top castle of Sedd-el-Bahr. This vantage point was held by no more than three Turkish platoons with four old Maxim machine-guns. It was enough. The landing parties of the Dublin Fusiliers were towed and then rowed in ship's cutters to touch beach at 6.20 a.m. in the misty, lovely dawn of Sunday morning the 25th April 1915. As the first keel grounded and the Maxims began to fire, the casualties among the Dublins were appalling. Entire boatloads were filled with the dead or dying. Cutters sank or for want of any more rowers drifted away. Only thirty or forty of the Dublin Fusiliers found precarious shelter all that day behind a four-foot ridge yards from the water's edge. At the same time as the cutters came to beach, the collier *River Clyde*, 3,913 tons gross and 344 feet in length, of steel construction, grounded behind the cutters and at no more than a short width of water away. Then began the famous attempt by some two thousand men of the assembled battalions of the Munster Fusiliers and the 2nd Hampshires to land across a bridge of lighters. The slaughter by the Maxims began again. Very, very few men reached the Dublins behind the sheltering ridge. It was by now a shambles both at the water's edge and upon a sea stained crimson. It was nightfall before one thousand men of the Munsters and the Hampshires who had been held back within the *River Clyde* all day could at last get ashore to clear Sedd-el-Bahr of Turks upon the morrow. So were these fine battalions burned away. The survivors of the Dublins and the Munsters were soon to be formed into a composite battalion called with the grim wit of the fighting man the "Dubsters".

While the Dublin Fusiliers were in desperate trouble at V Beach on the south-east side of Cape Helles, the 1st Battalion of the Lancashire Fusiliers, who had voyaged in the *Alaunia*, were hardly less so one mile away at W Beach upon the other and north-west side of the Cape. Here again the Turks were few in number but equipped with machine-guns covering a beach protected by three feet of barbed wire. The general procedure of approach was for the first landing parties, such as the Lancashire Fusiliers at this beach, to leave their transports some distance from the coast and board one of the many accompanying warships who then under cover of darkness and mist towed the ships' boats much nearer the shore so that at dawn seamen could row the soldiers to the beach. At W Beach the Turkish machine-guns waited to open fire until the boats were a hundred yards distant. Considerable losses were caused among the unfortunate Fusiliers. Nevertheless, officers and men waded waist-deep in water to the wire and despite terrible loss cut gaps through the wire and charged to the cover of cliffs and sand dunes. As the surviving Fusiliers scaled the cliffs the Turks began to retire and the landing of support troops then made good the work of the Fusiliers to secure the beach-head. It remains briefly to count the cost to the Lancashire Fusiliers. Of the battalion that assailed W Beach, about two hundred and fifty were killed or missing and two hundred and eighty wounded. Thus we leave upon the shore those valiant men who passed through our Port in the mid-March of 1915, but it should here be recorded that six V.C.'s, two D.S.O.'s, two M.C.'s and one D.C.M. were awarded for the valour of the 1st Lancashire Fusiliers upon Beach W that morning.

Not all those of the 29th Division who were chosen to be the first to set foot that day on one or other of the five landing beaches shared the bitter experience of the Royal Dublin Fusiliers and the Lancashire Fusiliers. The 500-foot British and North Atlantic Steamship Company's *Canada* of 9,415 tons gross followed the *Ausonia* into Shed T on the evening of Tuesday the 16th and took aboard from five trains the 2nd South Wales Borderers, the 89th Field Ambulance, a General Hospital and Stores, a Field Bakery and a Field Butchery. Altogether 71 officers, 1,472 men, 90 horses, 40 wagons with the hospital, bakery and butchery went aboard the *Canada* and it was 4 o'clock on the morning of Thursday the 18th before the first train came for the next ship to load at Shed T. One company of the South Wales Borderers was among some two thousand British troops that had by 6 a.m. of the 25th April landed unopposed on Y Beach some three and a half miles from Cape Helles along the outer north-west coast. They were however by that distance the nearer the Turkish reserves who were soon to move along the peninsula and after a day of comparative inactivity at or near the beach the two thousand troops were desperately engaged in defence by nightfall. Good fortune at dawn on the 25th also attended three companies of the South Wales Borderers who landed on another beach three miles away but across on the other side of the peninsula in the ill-sounding Morto Bay. Now Morto Bay, some three thousand yards across, stretched away immediately beyond the cliff-top castle of Sedd-el-Bahr upon the inner or Dardanelles side of the Peninsula. The beach-head at Morto was at the far end of the bay, distant and unseen from the terrible happenings at V Beach beyond and below Sedd-el-Bahr. The Morto Bay beach-head was called S Beach. Two companies landed from ships' boats under cover of gunfire from the warship *Cornwallis*. They came under fire from a Turkish platoon on the cliffs but the Turks were quickly overcome by the 3rd Company of the Borderers who landing in light equipment quickly scrambled up the cliffs.

A fifth beach upon which men of the 29th Division were the forerunners was X Beach a mile and a half along the north-west coast from the Lancashire Fusiliers at W Beach near Cape Helles. At X Beach, as elsewhere, there were cliffs to be climbed and two companies of the Royal Fusiliers that had sailed from Avonmouth in the *Alaunia* were sent in to do so. A dozen unfortunate Turks posted here had been stunned by the gunfire of the battleship *Implacable* and the Royal Fusiliers secured the cliff top without the loss of a single man.

The five beaches S, V, W, X, Y, at or not far from the point of the peninsula, upon which men of the 29th Division landed have now been briefly mentioned. It might seem that the sixth beach upon which voyagers from Avonmouth were not the first to set foot that day does not logically need mention here, but the Port's links with Australia and New Zealand were and are too close for logic to prevail. The sixth beach-head was some fifteen miles from Cape Helles along the north-west coast. There the Australian and New Zealand Army Corps came via their recent bases in Egypt to fight their bitter way to a first landing. From which time the name of the sixth beach-head has been known to the world as Anzac.

To return to the embarkation of the 29th Division at the Royal Edward Dock, the Leyland Line's 1901 *Kingstonian*, 6,564 tons gross and 467 feet in length, took aboard at Shed S on Tuesday and Wednesday the 16th and 17th March 38 officers and 1,017 men with 790 horses, 84 wagons, 17 guns and 201 cycles. The twelve trains for this ship brought a Cyclist Company, the headquarters and three batteries of the Royal Field Artillery, an ammunition column and the headquarters and one battery of the Mountain Artillery Brigade. On the same days the Ellerman Line's 1899 *City of Edinburgh* of 6,255 tons gross and 459 feet in length took from two trains at Shed R the Divisional Headquarters from Leamington, being 17 officers and 82 men with 73 horses and 6 wagons, and from Aldershot a casualty clearing station and a hospital with 24 officers and 189 men. On those two days the Cunarder *Andania*, already mentioned, took aboard at Shed P from four long trains from Rugby 29 officers and 994 men of the Royal Inniskilling Fusiliers with 90 horses and 25 wagons and also 27 officers and 1,006 men of the Border Regiment with 90 horses and 30 wagons. Three days after the Gallipoli landings the Border Regiment were retiring in disorder from a ridge near Y Beach but were saved by a shrapnel blast from the inshore battleship *Queen Elizabeth* which wiped out their Turkish pursuers.

Several weeks before these landings, Thursday the 18th March had been the day upon which eighteen British and French battleships served notice on the Turks by sailing about seven miles into the Dardanelles and loosing a great bombardment on peninsula positions. Three battleships were sunk and three crippled for little gain. At the Royal Edward Dock, Thursday the 18th was a comparatively slack day with only ten trains arriving. Of these the Atlantic Transport Company's 1898 *Marquette*, 7,057 tons gross and 487 feet long, was loaded from seven trains at Shed S and the Peninsular and Oriental Steam Navigation's 1905 *Dongola*, 8,051 tons gross and 470 feet in length, from three trains at Shed T. The *Marquette* took in all 37 officers and 934 men with 425 horses, 91 wagons and 50 cycles; it was an assorted passenger list consisting of the headquarters of the 87th Infantry Brigade, two signal companies, a divisional train company, the 87th Field Ambulance, two veterinary sections, part of the 147th Royal Field Artillery Brigade and the headquarters division of the Royal Engineers with three field companies. In a battle on the 28th April for the small village of Krithia, 8,000 yards along the peninsula from Cape Helles and about 3,000 yards inland from Y Beach on the north-west coast, a colonel of Royal Engineers was engaged in repairing a bridge on the road to Krithia when the infantry ahead began straggling back. The colonel took command of his few engineers and the infantry stragglers and led them back to dig and hold a front line for twenty-four hours.

The *Dongola* took aboard at Shed T 18 officers and 602 men of the King's Own Scottish Borderers with 90 horses and 24 wagons. There also went aboard 12 officers and 400 men of the 2nd Battalion of the Hampshire Regiment. The Hampshires it will be remembered joined with the Munster Fusiliers in endeavouring to cross the bridge of lighters from the *River Clyde* and support the Dublin Fusiliers in the disastrous affair on V Beach below Sedd-el-Bahr. The Scottish Borderers were part of the two thousand British troops who with one company of the South Wales Borderers and the Plymouth Battalion of Royal Marines made such a deceptively quiet landing at Y Beach as already mentioned. This Plymouth Battalion was not part of the Royal Naval Division that embarked at Avonmouth from the 27th February to the 1st March, since at about that time the Plymouth Battalion was making exploratory landings on the peninsula with varying degrees of success and failure.

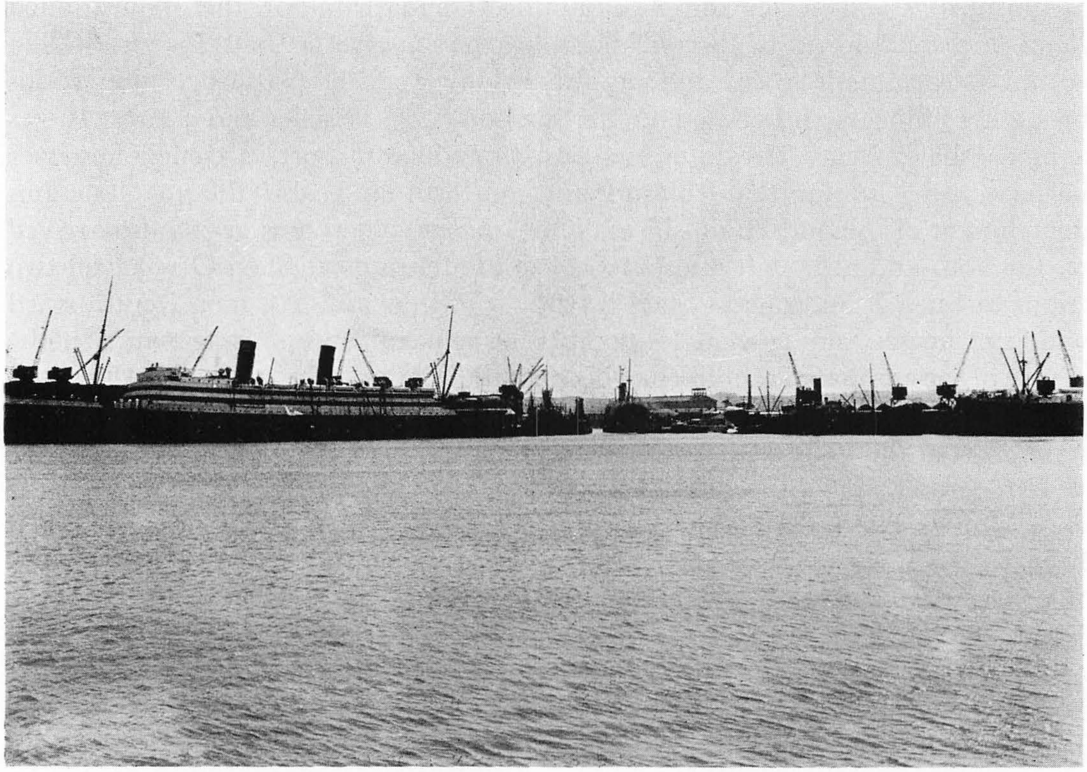
On Friday the 19th March there began to load at Shed S the *Campanello* of 9,291 tons gross that until her last outward sailing on the 5th January 1915 with 245 tons of cargo for Halifax, Nova Scotia, had been the Canadian Northern

Steamships' stand-in on the Avonmouth–Canada run for the requisitioned *Royal Edward* and *Royal George.* So now the *Campanello* had in turn fallen within Government grasp and on the Friday and the Saturday nine trains brought 17 officers and 584 men with 653 horses, 84 vehicles and 4 guns. It was a mixed bag; Army Headquarters and brigade transport, a 6-inch howitzer battery with ammunition column and so forth and also the machine-gun detachment of the 2nd Hampshires. The *Arcadian,* 8,939 tons gross, also arrived on the 19th and although due to load from four trains at Shed O received two trains at Shed P and one at Shed S when 3 officers and 215 men went aboard with 124 horses and 44 vehicles comprising a naval ammunition park. In the course of the campaign the *Arcadian* became the headquarters of Sir Ian Hamilton and his general staff in situations now dangerously near and now dangerously remote from the grim actualities on the peninsula.

Three other ships began loading on the Friday and finished on Saturday the 20th March. The 1902 *Tintoretto* of 4,181 tons gross with a length of 390 feet had been on the Liverpool to South America run. During the evening 6 officers and 183 men of an unidentified Yeomanry squadron came from Warwick with 188 horses and 10 vehicles and went aboard at Shed P. Royal Artillery headquarters and personnel arrived after midnight with 6 officers and 6 men bringing 121 horses, 14 vehicles and 12 cycles. They were followed by a Mountain Artillery Battery of 2 officers, 66 men, 130 horses, 3 vehicles and 4 guns and lastly there came 1 officer and 50 men with the transport of the 2nd Hampshires being 78 horses, 21 vehicles and 9 cycles.

The *Verdala* of 5,880 tons gross began at half-past six on Friday evening to take aboard at Shed T the 90th Howitzer Battery and its ammunition column. The last of four trains from Woolwich left Shed T at half-past five on Saturday morning by which time 11 officers and 293 men had gone aboard with 92 horses, 50 vehicles and 8 howitzers of 6-inch calibre. Later a train from Leamington brought the 88th Field Ambulance with 6 officers, 80 men, 83 horses and 21 vehicles while another train brought a Mobile Veterinary Section consisting of 1 officer and 26 men with 24 horses and 2 vehicles. Friday the 19th and Saturday the 20th seem to have been very much a day for the artillery. Into the Atlantic Transport Company's 1898 *Manitou* of 6,849 tons gross there went aboard at Shed R during Friday evening and all day Saturday the headquarters, three batteries and ammunition column of the 147th Brigade Royal Field Artillery. The gunners consisted of 15 officers and 479 men with 594 horses, 84 vehicles and 4 guns. Among these bombardiers 11 officers and 400 men of the much dispersed 2nd Hampshires were set.

Men of the 2nd Hampshires were already to be found aboard the *Dongola,* the *Campanello,* the *Tintoretto* and the *Manitou* and on the evening of Saturday the 20th another 16 officers and 540 men of the battalion went aboard the Royal



Royal Edward Dock

This view from the quayside at Shed T shows the liner *Royal Edward* berthed at Shed P. The dock is nearly one thousand feet in width at this point. Shed P, 500 feet in length, was overlapped by the liner that had a length of 526·1 feet. In Table 2 of the Appendix at the end of this book a list from the 1919 Annual Report on the Docks gives information concerning the fifty-four ships of 500 feet and over in length that had entered the Port since August 1914. The *Ceramic* at 655·1 feet was the longest ship to enter the Royal Edward Dock up to 1919 and in point of length the *Royal Edward* was twenty-fifth in that list of fifty-four ships.

Mail Steam Packet's 1905 *Aragon* of 9,588 tons gross and a length of 513 feet, at Shed T. Personnel Headquarters and men of the 4th Worcesters, numbering 20 officers and 433 men with 30 horses, 9 vehicles and 2 guns, went aboard after midnight and a train at 2.45 a.m. on Sunday the 21st brought a stationary hospital, a postal detachment, a sanitary section and artillery personnel with 2 guns. This third and last train for the *Aragon* brought 4 officers, 125 men, 4 horses and 2 guns. During the campaign the *Aragon* was anchored in Mudros Bay for staff work. This luxury ship formerly on the South American run now received visitors of importance come to survey some aspect of the campaign. To the *Aragon* there also came on military matters officers and men from the horror and the filth of Gallipoli. Their views on the remote staff in the luxurious liner were abrasive. It was said the *Aragon* would be grounded there on empty bottles. In fact, on the 30th December 1917 long after the campaign had ended and the army staff had gone elsewhere, the *Aragon* was torpedoed off Alexandria.

Late on Saturday night and on Sunday the 21st the Anchor Line's 1904 *Caledonia*, 9,225 tons gross and 500 feet in length, took on board at Shed P 77 officers and 2,437 men. Among these were the 5th Battalion of the Royal Scots, 34 officers and 941 men of the 1st Essex Regiment, 8 officers and 336 men of the 5th Worcesters together with Headquarters of the 88th Infantry Brigade and personnel of the 88th Field Ambulance. Cargo included 120 horses, 39 vehicles and 12 cycles. Men of the Essex Battalion went ashore at W Beach immediately after the Lancashire Fusiliers had suffered such heavy loss in establishing a landing there and the 5th Worcesters also went ashore at W Beach later that morning.

By Sunday the 21st March most of the armada taking the 29th Division from the Royal Edward Dock to Gallipoli was at sea. On the 21st the *Southland*, a smaller ship of 2,081 tons, took out from Shed S 2 officers and 82 men with 103 horses and 32 vehicles. The *Harmatris* of 4,771 tons net was given over to artillery affairs. In the *Harmatris* went 10 officers, 405 men, 307 horses and 49 vehicles forming the Divisional ammunition column and also the personnel of a Mountain Artillery Battery. As with all ships there appears to be no Port record of the tonnage of stores or ammunition, but the number of guns were shown by the Port's railway returns and none appear to have gone out on the *Harmatris*.

The last day of the embarkation of the 29th Division was Monday the 22nd March when one ship only was loaded. It was the 1902 *Knight of the Garter* that morning arrived, a ship of 6,655 tons gross and 456 feet in length. The illustrious title had been conferred by the owners, the Knight Steam Ships Company of Liverpool, and similar awards were to be found upon the bows and sterns of their other five ships. Between noon on Sunday and 3.30 p.m. on Monday six trains were due to arrive at Shed P. Only the four Monday trains reached Shed P and there put out 6 officers and 158 men with 75 vehicles from Blackheath for the Divisional Reserve Park. The two Sunday trains from Taunton were billed as bringing mules for the Port Reserve Park and were not in fact unloaded at the docks but at the nearby Avonmouth Town Station. For that reason we do not know the exact number of mules that went in droves from the station to go aboard the *Knight of the Garter*, but two average mule trains of 30 wagons apiece would bring some 600 mules at ten mules to the wagon. It would appear from the train returns that apart from these mules taken as reserves, the 29th Division was equipped with horses.

From 7 o'clock on the evening of Monday the 15th March until half-past three on Monday the 22nd the Port locomotives hauled on to sidings alongside the quays and sheds of the Royal Edward Dock 112 trains brought by the railway companies from inland points that were mostly in the Midlands. These trains were made up of 657 coaches, 936 open trucks, 872 cattle trucks and 98 vans. The 29th Division numbered 647 officers and 18,307 men. With them came 5,676 horses, 1,130 vehicles, 51 guns and 98 vans. To this tally may be added some 600 mules aboard the *Knight of the Garter*. The division sailed in 20 ships with a total tonnage of about 160,000 tons gross and 100,000 tons net. The detailed rail and berthing time-table drawn up before the embarkation began was closely and promptly kept by the Port Authority. No record has been found of the tonnage of stores and ammunition that went with either the Royal Naval Division or the 29th Division.

Thus from the Royal Edward Dock there sailed the British fighting men who were to be the spearhead of the assault upon five of the six beaches of Gallipoli attacked at dawn on that April Sunday morning. Bristol is proud of her maritime history. Now among her other memories Bristol may remember and be proud that by her faith and enterprise in building in days of peace the Royal Edward Dock, the men of the gallant Royal Naval Division and those of the illustrious 29th Division were able to pass expeditiously upon their way to a campaign in which their fate did not reward their bravery.

Nearly 80,000 men grouped around Gallipoli for the first landings. There were 30,000 men of the Australian and New Zealand Army Corps from bases in Egypt. Of these, 6,500 were casualties at the Anzac beach-head by the 1st May. The French sent 22,450 men of whom 12,600 were casualties by the 11th May. The British forces in this first stage of the campaign consisted of the 18,954 men of the 29th Division and 7,995 men of the Royal Naval Division. By the 10th May over 10,000 casualties from the 29th Division had been taken from the Peninsula. The Royal Naval Division, by being assigned to a feint attack at Bulair on the 25th April, were at first spared the disastrous casualties of those who had to press the first attacks home. The fighting up steep ravines and over ridges at Anzac was of such a terrible character that by the 28th April even the tough Anzacs had to be withdrawn down towards the beach-head and reformed. The Portsmouth, Deal and Chatham Battalions of the Naval Division, presumably about a thousand men to each battalion, were sent in as relief and made their way up to the front fighting points which by now were half a mile to a mile from the shore with broken combat areas ranging over a distance of about three thousand yards. On the 1st May the Turkish commander Mustapha Kemal launched a mass frontal attack on the Marines who were quite unaccustomed to anything like Gallipoli conditions. The Marines stood fast and the Turks were slaughtered by machine-gun and rifle fire. The Turkish staff estimated their losses at Anzac to be 14,000 men from the 25th April to the 4th May by which time the losses of the Marines came to about 1,500 men. Thus the military price at Anzac in the first eight days or so came out at about seven men per lineal yard of the fighting front.

There was a pause in the embarkation of large units from the Royal Edward Dock from the 22nd March until the 7th April. Then in the next eight days to the 14th April seventeen ships of 116,039 tons gross arrived to take aboard nearly 10,000 troops. The ships were the *Menominee*, the *Roman Prince*, *Commodore* and *Karoa*; *Minneapolis*, *Saturnia*, *Nitonian* and *Wayfarer*; *Clan McCrae*, *Nessian*, *Scotian*, *Montreal* and *Toronto*; *Crispin* and *Cuthbert*, *Esmeraldas* and *Kamerun*. The *Kamerun* was a steamer of the Hamburg–Amerika Line which had been captured in September 1914 at the West African port of Duala in the Cameroons when a British expedition landed to take over the German colony. In those eight days ninety-two trains brought to the Royal Edward Dock 455 officers and 9,349 men, mostly of the Yeomanry, so it is not surprising that they were accompanied by 9,085 railborne horses and mules with 596 vehicles. The ships also took 14 guns, 202 cycles and 36 motor-cycles. The yeomanry units were the Berkshires, the Dorsets, the Bucks, the Warwicks, Worcesters, Notts and South Notts, the Derbys, the Royal Gloucestershire Hussars, the City of London Yeomanry and the 1st and the 3rd London Yeomanry. Six trains brought units of the Honourable Artillery Company with guns and so forth. All these units came from stations in Norfolk where they had been posted both for training and to repel any German attempt at invasion, a likelihood at last considered to be more remote. The auxiliary services such as field ambulances, bakeries, butcheries, veterinary hospital and the postal, cable and wireless sections mostly came from Woolwich and Park Royal in London and from Aldershot and Birmingham.

The destination of this fleet of transports was Egypt which had become for a while the base for Gallipoli, rather than Mudros Bay whose facilities could rank little higher than a transit anchorage that led to much-needed ships being kept as warehouses. The Yeomanry remained in Egypt in reprieve from Gallipoli until mid-August. On the 6th August a seventh beach-head was opened at Suvla Bay about twenty miles along the north-west coast from Cape Helles, the point of the peninsula. A massive attack was planned for the 21st August upon Scimitar Hill, a commanding height that lay a short distance inland from the shore beyond a salt lake that had dried out. On the 18th, 5,000 unmounted yeomanry arrived from Egypt to follow through the opening attack by Gallipoli veterans, a status achieved if at all in a week or less up front. The affair at Scimitar Hill was a massive failure and the customary appalling losses were suffered by the Anzacs, the regrouped survivors of the 29th Division and the Yeomanry. Stone and Wells say that the Royal Gloucestershire Hussars, men from Bristol and the Shire, came away from Gallipoli fifty strong.

In his second volume on *Seaborne Trade*, C. E. Fayle states that forty-seven ships were used to transport the first three divisions of the Gallipoli Expedition during the March and April of 1915. We have recorded that from the Royal Edward Dock seven ships took the Royal Naval Division, twenty the 29th Division and seventeen the Mounted Yeomanry Division. Three other likely ships for which we can now find no direct evidence may perhaps make up the full number given by Fayle. Thus far professional soldiers, reservists and territorials were being drawn into the inferno of Gallipoli under a scorching sun. By April 1915, the battalions of the New Army formed from those who had volunteered from early August onwards had been trained to an extent that made them ready to make their way towards the battle zones. Their tribute was now to be rendered to the Peninsula. Fayle states that in May, June and July six more divisions sailed from this country for the Gallipoli campaign. Of these divisions, however, we find that only one, the 13th Division, was to sail from the Royal Edward Dock in what was to be the last large embarkation from the Port. Between the 13th and the 30th June, 689 officers and 19,858 men went aboard twenty ships and with them went 4,985 horses and mules, 1,068 vehicles, 68 guns, 458 cycles and a goat, presumably not a sacrificial scapegoat such as warriors in classical times might have thought the campaign circumstances more than warranted but a military mascot that went aboard the *Roman Prince* with C Battery of the 69th Howitzer Brigade.

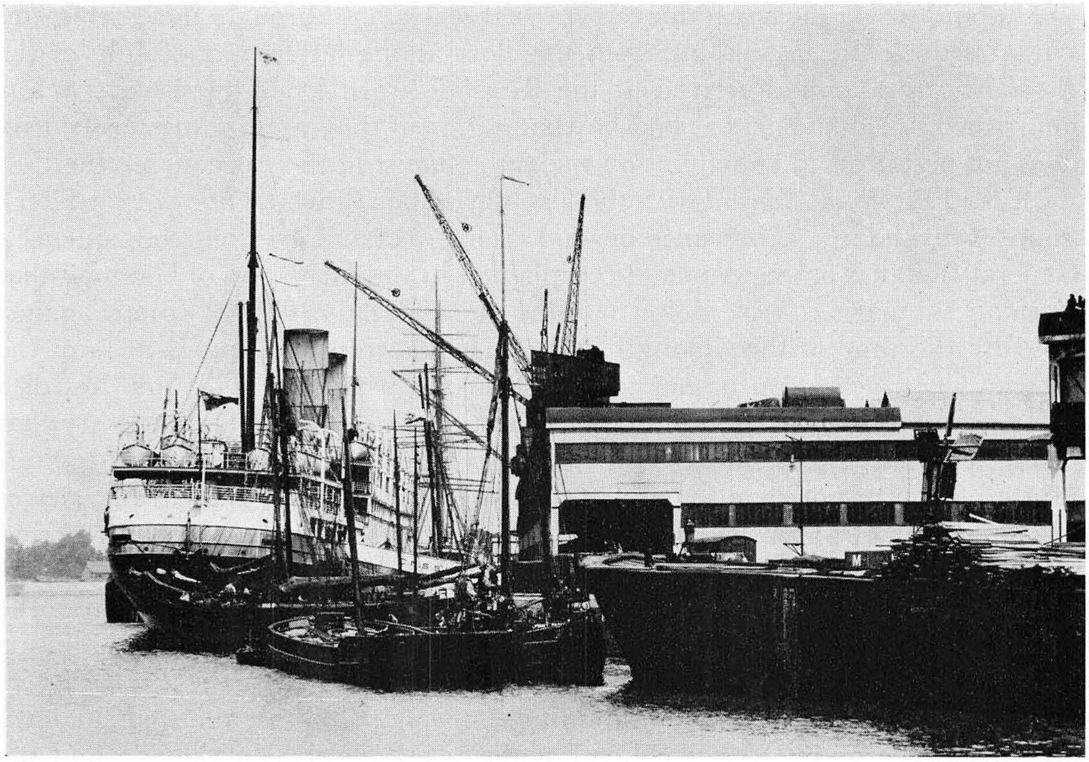
The twenty ships of the June embarkation had a tonnage of 169,835 gross. The familiar *Royal George* and *Royal Edward* had arrived at the Port some days before embarkation began. Then came the P. and O. *Nile* on Saturday, the 12th June, the *Ausonia*, *Japanese Prince*, *Braemar Castle*, *Nessian* and *Eloby* on the 13th, the *Cuthbert*, *Crispin* and *Knight of the Garter* came on the 14th, the *Tintoretto* on the 16th, the *Minneapolis*, *Roman Prince* and *Lake Manitoba* on the 17th and the *Cawdor Castle* on Saturday the 19th. After a pause the Cunard *Ivernia*, 14,278 tons gross, came on the 24th and then came the *Argyllshire*, a pre-war visitor of 10,392 tons gross, on the 26th, the White Star *Megantic* of 14,878 tons gross on the 27th and last and largest the Cunard *Franconia* of 18,150 tons gross on Wednesday the 30th June. At this time ships taking troops to Gallipoli usually sailed first to Alexandria and thence proceeded to Mudros after any regrouping or restowage.

The units that went aboard were the 6th Battalion of the East Lancashires, the 6th Loyal North Lancashires, the 6th King's Own, the 6th South Lancashires and with these four battalions of the New Army went the Headquarters of the 38th Infantry Brigade. Aboard this assemblage of ships also went the 8th Welch, the 4th South Wales Borderers, the 5th Wiltshires, the 6th East Yorkshires, the 8th Royal Welsh Fusiliers, the 9th Warwicks, the 9th Worcesters, the 8th Cheshires, the 7th North Staffordshires, the 8th Royal Fusiliers and of particular interest to Bristolians the 7th Battalion of the Gloucesters. It might be thought that no such ordeal awaited these New Army battalions as faced the regular fighting men of the 29th Division in their landings upon the beaches of Gallipoli. By early August, however, when these new battalions came into action no more than three or four rugged miles had been gained from the point of the Peninsula. As for the Anzac and Suvla beach-heads along the north-west coast the scenes of combat were scarcely ever more than a mile or two from the shore. It was into this close hinterland scarred with tortuous ravines often unshown on military maps that some of the new battalions were sent to make desperate assaults on Turkish positions virtually unassailable. Then were lost so many of the fine men England and Wales had offered as the first-fruits of the 1914 recruiting campaigns.

Recruitment of the 7th Gloucesters began in Bristol in August 1914 and these early volunteers were drafted through Horfield Barracks on the outskirts of the city to Tidworth on Salisbury Plain. Their training was coming to an end by May 1915 and Stone and Wells in *Bristol and the Great War* tell us that the battalion was preparing to embark for France when sun helmets were suddenly issued. Port records show that on the afternoon of Saturday the 19th June 29 officers and 977 men of the 7th Gloucesters with 20 vehicles arrived at Shed P and went aboard the Canadian Pacific Railway's 1901 *Lake Manitoba*, a ship of 9,674 tons gross and 469 feet long. At 3 a.m. on Friday the 18th 3 officers and 32 men of the battalion with 147 horses and mules had already gone aboard the *Eloby* at the same shed. Thus the total battalion strength was 32 officers and 1,009 men. Stone and Wells state they did not disembark at Alexandria but went on to spend a week at Mudros after which they sailed to Cape Helles to relieve for a short while some of the survivors of the 29th Division. Then they returned to Mudros and re-embarked to land on the 5th August on the Anzac beach-head where by reason of the tangled nightmare of ravines and heights the lines of combat after two months of incessant fighting were less than a mile from the shore. The plan for the 6th and 7th August was to break out on the left of the tiny Anzac sector curve inland some two miles through a maze of ravines and capture a dominating mile of heights rising to nearly a thousand feet.

The task of some five hundred of the Gloucesters as part of a brigade of other New Army troops was to follow up assault troops of the New Zealand Wellington regiment who after heavy loss were held up near their objective, the summit of Chunuk Bair, 850 feet in height. But the units of the New Army brigades lost direction during the night in the absolute maze of ravines through which they must go and at the critical time of Turkish counter-attack on the Wellingtons only the five hundred men of the 7th Gloucesters made contact as they moved under fire in two lines to reinforce and then attack. The first line reached the summit of Chunuk Bair as daylight broke and the survivors were of those very few who ever looked even for a brief while from that captured summit to see, five miles away downhill, the waters of the Narrows of the Dardanelles. The second line of the advancing Gloucesters had been caught by enfilading machine-gun fire and were wiped out almost to a man. Those on the summit held their ground under considerable assault until their terrible losses forced them to retire and at dusk to be withdrawn from battle. By that time the Gloucesters had sustained 363 casualties and had lost every officer and sergeant. These men from Bristol and nearby went to those hills in their hundreds; they came back, those who came, by the broken score. Defeat was that day their portion; courage their triumph up on the bare lost ridge of Chunuk Bair.

With the sailing of the 13th Division of the New Army to Mudros and Alexandria in June 1915 the large embarkations of fighting men from the Port came to an end. No more was the Royal Edward Dock to be seen packed with great transports while the crowding battalions went aboard with horses, guns, vehicles and stores. By the 31st July 1915 the first amazing year of the war had almost run its course. The happenings at the Port had been as unforeseeable as elsewhere. By the 31st July, 654 transports large and small had entered the Port since the 4th August 1914 and 147,956 soldiers and others on war service had come or gone by sea. Like Liverpool the Port was chosen to send transport and transport supplies to the armies overseas and by the 31st July 23,441 vehicles almost all outward had come or gone seaborne. Surprisingly, horses and mules outnumbered men and whereas we know that more men went overseas than came into the Port but cannot divide the ins from the outs, we can say that of the 156,091 horses and mules that were borne across the waters of the Port 128,168 came from overseas and 27,923 went overseas. War material imported from abroad weighed 100,855 tons and from the Port there went out to the armies 126,897 tons of stores, supplies and equipment. The horses and mules at 12 cwt apiece were separately totted up to a nominal weight of 93,654 tons. In this opening year of the war far more men journeyed through the Port on war duty than during the war years that were to follow. Hardly more than the strength of two battalions were, for example, to travel through the Port in the ensuing year to the 31st July 1916.



THE *Royal Edward* AT SHED P

THIS PHOTOGRAPH IS ONE OF THOSE TAKEN AT THE Royal Edward Dock on the 29th July 1910, the day after her fourth arrival at the Port and her third from Montreal. Her first arrival was on the previous 29th April when she came down from the Glasgow yard of the Fairfield Company Ltd. after conversion from luxury passenger service as the S.S. *Cairo* between Alexandria and Marseilles under the house flag of the Egyptian Mail Steamship Company to the more rigorous North Atlantic route between Avonmouth and Montreal for Canadian Northern Steamships Ltd. The *Royal George,* formerly the *Heliopolis,* arrived from Glasgow on the 18th May to join her sister-ship on the Avonmouth to Montreal service.

London was the port of registry for both these handsome liners whose hulls to the level of the well-deck were an attractive mid-grey with white above and with two yellow funnels with deep blue tops. Captain W. Roberts, a well set-up and bearded mariner, was in command of the *Royal Edward* and it may be remembered that he subsequently became and remained for several years until his retirement the Dockmaster at Avonmouth.

We are looking at the south end of Shed P and the roof cranes are seen in typical profile during the unloading or loading of cargo. On the far right stands the north edge of Shed O. There is open space between the two sheds since some years were to pass before the plant for delivering bulk grain to small craft was to be erected here. Nevertheless, the small sailing craft then accustomed to ply up and down the Bristol Channel are congregated at the angle of the quay where large ships at Sheds O and P were unlikely to intrude. On the far left we note how near were the trees to the north wall of the Dock some four hundred yards across the water from the end of Shed O.

The ending of the great movement of the legions through the Port seems symbolised by the last sailing from the Port in the latter part of July of the *Royal Edward* that had arrived at the Royal Edward Dock on the 21st. How many men sailed aboard her and of what regiment they were, a stricter security does not permit us to know, but on the 13th August in the Aegean Sea the U14 torpedoed the *Royal Edward* with the loss of 935 men of whom 860 were soldiers. Some events have a significance beyond their direct and grievous consequences. General Liman Von Sanders had complained in the early days of Gallipoli that German submarines were doing nothing to hinder the flow of troops against him. By the time of the sinking of the *Royal Edward* the eventual mass of the attackers was poised on or not too far from the peninsula. This first loss of a troop transport recently from England was not only a glance back at what could have happened, but also an earnest of troubles to come in the Mediterranean for transports and merchantmen alike as more U-boats and newer U-boats came out from an Austrian base in the Adriatic. For a lengthy period during the middle of the war merchant ships to and from India and the Far East were to be diverted from the Mediterranean to the longer route around the Cape with consequent loss of shipping time, of carrying power and of imports into the ports of London, Liverpool and Bristol. The loss of the *Royal Edward* was a shock to the shipping community at the Port and set the first shadowy question mark against the likelihood of the renewal between Canada and the Port of the passenger link that those handsome ships, the *Royal Edward* and the *Royal George*, had maintained in the four years before the war.

After the embarkation of the New Army battalions for Egypt and Gallipoli in June 1915, there was also a decline in the number of sailings from the Port of those transports of smaller size that for several months had regularly gone to and from France. Apart from the *Royal George* that came in O.H.M.S. on the 29th August and the Eagle Oil Transport Company's *San Nazario*, 10,064 tons gross and 525 feet in length, the ships coming to Avonmouth were now mostly of smaller size than before the war. There was however one moment of glory on the 1st July 1915 when there came in from Amsterdam the Holland–Amerika Line's *Rotterdam*, 24,149 tons gross, 650·5 feet in length and 77 feet in breadth. It may be that this liner brought refugees or repatriated civilians or wounded. This great ship was built in 1908 at the Belfast yards of Harland & Wolff Ltd. The very next day after her arrival at the Port another *Rotterdam* arrived—the American Petroleum Company's 1895 steamer of only 4,114 tons gross from New York. The *Rotterdam* of the 1st July was to remain the largest ship to enter the Port for many a year, but not the longest ship since earlier in the year on the 16th February there had entered for O.H.M.S. purposes the White Star *Ceramic*, 655·1 feet in length but only 69 feet in breadth and with a lesser tonnage of 18,481 gross. It will be remembered that the 875-feet length and the 100-feet breadth of the Royal Edward Lock were set at that length and breadth in view of the dimensions of the Cunard Line's 1907 *Lusitania* and *Mauretania* then a-building. Surely enough on the 18th March 1916 a steamer called *Mauritania* entered the Port, but it was not the great Cunarder of 31,938 tons gross with a length of 762·2 feet and a breadth of 88 feet but an 1882 Italian steamer of 1,605 tons gross and 264 feet long inward bound for the City Docks from Valencia.

To set the length and breadth of an incoming ship against the length and breadth of the entrance lock seems to make the decision to enter or not to enter simple enough. We see that in terms of length and breadth the Royal Edward Entrance Lock had ample margins for any of the ships mentioned. The crucial factor where length and breadth of lock would be sufficient has yet to be considered and consists of the ship's draught, namely the depth of the ship below the water-line plus an adequate margin between keel and the bed of the lock, as compared with the depth of water as shown at the time of entry on the tide gauge at an ocean lock. The ship's draught depends not only upon her own dimensions but upon the weight of cargo carried. A port's tide tables show the predicted height for the high tides upon each day of the year. The highest tides come at about the time of equinox in March and September when the sun is crossing the equator and night and day are of equal length. To take a year at random we find that on Monday the 9th March 1970 the morning tide at 9.24 at the Royal Edward Lock was predicted at 49·6 feet. The lowest of the high tides, known as the neap tides, also come at the equinoxes and during the next eight days the height of the high tides gradually fell away until the height of the morning tide of Tuesday the 17th March was predicted at no more than 31·8 feet. By the morning tide of Wednesday the 25th the level of the high waters had gradually increased until a height of 45·4 feet was predicted. Weather conditions, notably the strength and direction of wind, can cause the actual height of any tide to vary to some extent from the height predicted. However, if we take the height of the tides as predicted above it will be seen that a ship requiring 35 feet of water would have to be selective both as to date of entry and time of entry on the tide selected. Amid these and other stock-in-trade problems of a dockmaster it has to be remembered that too large an entrance lock controlled by lockgates would be too expensive a luxury, both in construction and in daily operation through loss of water on opening, etc. The Royal Edward Lock was to prove well tailored to the needs of the Port and of the nation for many decades to come.

IX

1923:
A Voice in Parliament

THE muddled stowage of stores in the holds of the ships that took those two spearhead divisions towards Gallipoli has yet to be considered. The Grand Inquest upon every aspect of Gallipoli has gone on, with multitude of coroners, even unto this present day. Why be surprised therefore that this question of the stowage at Avonmouth was raised on the night of the 22nd March 1923 when the House of Commons was discussing the Navy Estimates? The Bristol Press very properly failed not to pounce thereon next morning and on the 24th Ross-Johnson wrote on the subject to the Bristol stalwart, Sir Thomas Inskip, Member of Parliament for Bristol Central. A press account and subsequent correspondence are now set out.

Extract from *Bristol Times and Mirror* for Friday the 23rd March 1923.

> "AVONMOUTH TRANSPORT
> DURING THE WAR.
>
> ---
>
> BLAMED FOR FAILURE OF
> DARDANELLES CAMPAIGN.
>
> Viscount Curzon urged that the Admiralty should give serious attention to our light cruiser position, which would become one of grave inferiority. Alluding to the Dardanelles campaign, the noble lord said that it failed owing to the transport arrangements from Avonmouth, stores which were needed immediately being at the bottom of the holds, where they could not be got at without considerable delay"

The same paper on Saturday the 24th March explained that the Viscount Curzon who made the statement was the Member of Parliament for Battersea and not the Foreign Secretary. The latter was the famous George Nathaniel Curzon, Marquess of Kedleston.

Letter of 24th March 1923 from D. Ross-Johnson, General Manager of the Port of Bristol, to Sir T. W. H. Inskip, M.P., C.B.E., K.C., S.G.

"Dear Sir Thomas,

Alderman Twiggs is very much concerned about a statement Lord Curzon is reported to have made in the House of Commons during the Navy debate on Thursday reflecting on the transport arrangements at Avonmouth as contributing to the failure of the Dardanelles expedition.

As reported in the local papers of yesterday morning it appears to be a reflection upon the efficiency and working of the Port Authorities. Of course, they had no responsibility in the matter. The whole matter of the provision of transports and their loading is a matter between the War Office and the Admiralty.

I am not sure what Lord Curzon really said as *The Times* makes no reference to this and the report in the two local papers does not agree, and I have not yet been able to get Hansard.

But Alderman Twiggs would be greatly obliged to you if you could get Lord Curzon to find an opportunity of making it clear that his strictures referred to the Naval and Military organization and not to that of the Dock.

Yours truly,
D. Ross-Johnson."

Letter of 27th March 1923 from Sir Thomas Inskip to Mr. D. Ross-Johnson.

"Dear Mr. Ross-Johnson,

Thank you for your letter of the 24th instant with regard to the reports of Viscount Curzon's speech on the Navy Estimates. The exact words used by Viscount Curzon are as follows, according to the Official Report, Vol. 161 Column 2832.—

> 'The hon. and gallant Member for Cambridge (Captain Moreing) alluded to the Dardanelles, and said the Dardanelles was lost on account of bad Staff work, or that was the effect of his remarks. I was at the Dardanelles during the successive stages of these operations, and I know exactly what happened. I know that the Dardanelles was not lost, and the original attack on the Dardanelles—I believe the strategy was quite sound—did not fail, by reason of any lack of co-operation or bad Staff work on the part of the people there, or by reason of a failure of gallantry by the officers and men concerned, because they were heroes beyond power of description, but simply and solely because of the transport officer at Avonmouth Docks at the time. The transports came out with stores that the Army could not possibly want for at least three months at the top of every hold and with the things that were immediately wanted at the bottom. That is why they

failed. Every transport had to be sent back to Egypt, everything taken out and put back again. That took six weeks, allowed the Turks to know the positions of our Forces, and when they came back there was a mountain of barbed wire. That was the reason for the failure of the Dardanelles campaign.'

I think you will agree with me that this passage does not bear out the view that Viscount Curzon was criticising the Dock Authorities at Avonmouth. I spoke to Viscount Curzon on the matter and he told me that it was not at all his intention to criticise the Dock Authorities. His criticisms were directed entirely against the Naval and Military Transport Authorities.

I have arranged with him that I shall write him a letter drawing his attention to the reports in the Press and that he will write a letter in reply, making clear his position in the matter, and if Alderman Twiggs or the Dock Authorities think it desirable, Viscount Curzon will have no objection to the publication of this correspondence in the press.

Yours very truly,
T. W. H. INSKIP."

Letter of 11th April 1923 from Sir Thomas Inskip to Mr. D. Ross-Johnson.

"Dear Mr. Ross-Johnson,

I am enclosing a letter from Lord Curzon and also a copy of my letter to which it is a reply. No doubt you and Alderman Twiggs will decide whether it is worth while publishing Lord Curzon's letter.

Yours very truly,
T. W. H. INSKIP."

Copy

"10, Eaton Square,
London, S.W.1.
31st March, 1923.

My dear Curzon,

You remember me speaking to you about your speech on the Navy Estimates in reference to Avonmouth. The report which has appeared in several West Country papers makes you say that the Dardanelles campaign failed owing to the transport arrangements at Avonmouth. It is perfectly plain from Hansard what you really did say, but if you will give me an assurance that it did not in any way reflect upon the facilities provided at Avonmouth Docks it would be satisfactory to Bristol, which is so largely interested in the welfare of the Docks.

Yours very truly,
T. W. H. INSKIP."

Letter of the 9th April 1923 from Lord Curzon to Sir Thomas Inskip.

"My dear Sir Thomas,

Ever so many thanks for your letter of the 31st which I regret I have not been able to answer before, but I have been away.

With regard to the question of Avonmouth Docks the impression I intended to convey in my remarks in the House of Commons on the Navy Estimates was that the Dardanelles campaign was lost in its initial stages owing to the fact that whoever was responsible for the transport at Avonmouth Docks had stowed them the wrong way up—in fact all the stores which the Army would require immediately on landing were at the bottom of the hold of every transport, whereas the stores the Army could not possibly want for three months after landing were on top. The consequence of this was that practically every transport as it arrived at Mudros had to be sent away to Egypt unstowed and had to be re-stowed. The result of this was a delay of practically six weeks in the operations, which were sufficient to give the Turks time to prepare defences of which there were practically none before, and to afford them a very good idea of the composition and disposition of the force to be employed.

I did not in any way mean to say, nor did I say, one word which would reflect on the facilities provided at Avonmouth Docks. I am quite sure that no one with the knowledge which I think I can claim to have with regard to maritime affairs in general, could be so silly as to say one word which could reflect on the magnificent docks which you have at Bristol which must indeed be a source of pride not only to all those associated with the city but also to every Englishman who places any value whatever on the greatness of his country.

I can only once again say how sorry I am that my actual remarks which can be seen by reference to Hansard, should have been so misrepresented as to give rise to such an impression.

Please forgive so long a letter but I wished to make myself perfectly clear.

Yours sincerely,
Curzon."

Letter of the 16th April 1923.

"Dear Sir Thomas,

I am very much obliged to you for your letter of the 11th inst. enclosing your correspondence with Lord Curzon, and I am sure Alderman Twiggs, to whom I am forwarding copies will be also, and I will settle with him what communication to make to the Press. Lord Curzon has certainly apologised most handsomely for an error he did not commit.

Yours truly,
D. Ross-Johnson."

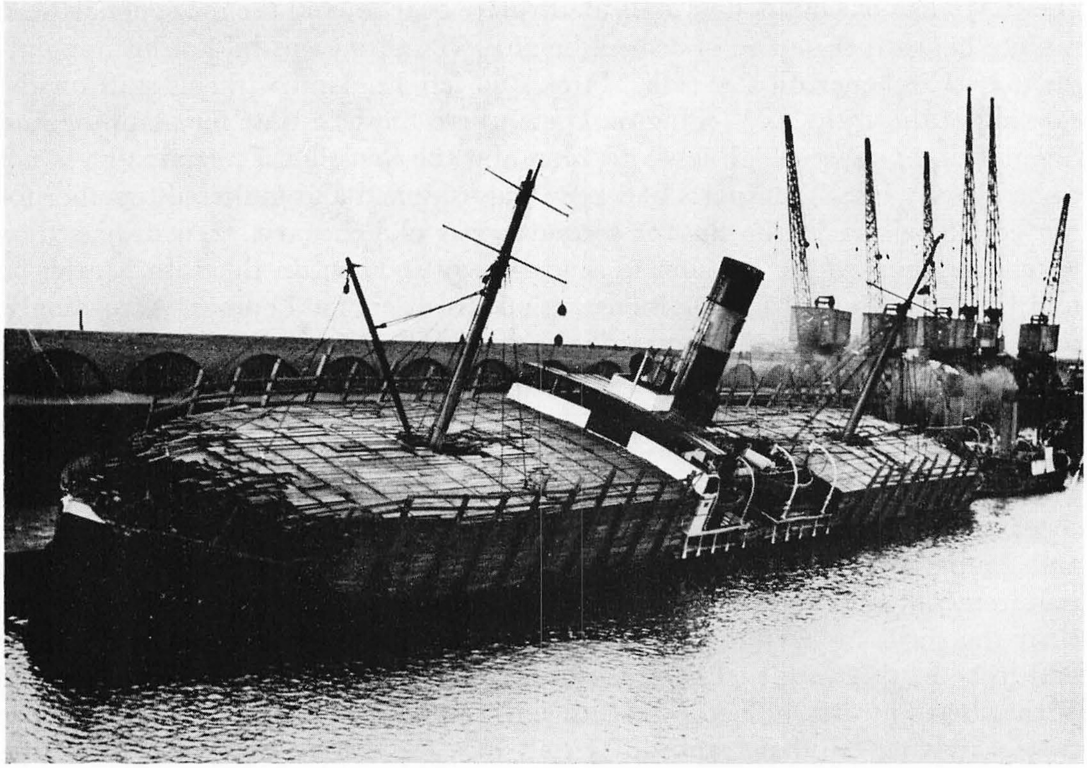
The appropriate letters were published in the *Bristol Times and Mirror* and the *Western Daily Press* on the 18th April 1923. Honour was satisfied.

In time of peace the stowage of cargo in ship's hold is a matter of great concern to a shipowner. In time of war it is no less if the ship remains under his orders, but requisitioning takes such matters out of his control. At the Port of Bristol it was usual either for the shipowner to employ his own labour from among dock workers for loading his ships or for him to engage a firm of stevedores accustomed to the task of stowing outward cargo. In wartime the stowage of military cargo such as vehicles, guns and their limbers, portable field stations, bakeries and so forth, as well as ammunition and a wide range of stores, would or should be carried out under the orders and supervision of the Naval Sea Transport Officer at the Port in co-operation with a military representative. The Port would provide the berths, the sheds, the cranes, the locomotives and the staff that go with such things. Theoretically then it would seem that under the direction of the naval and military officers the order in which cargo must be taken out upon arrival can be arranged at the time of loading. But it would not be quite as simple as that even if all concerned from the General Staff right through the military staffs and the transport staffs both here and in this case at Mudros and Alexandria had known in some detail what they were attempting to do, what the natural features were at Mudros and were likely to be, or adversely could be, on the narrow and deadly beaches of Gallipoli. If with all this reasonably known or foreseen, they had been given reasonable time to plan this extremely complex affair and reasonable time to carry out their planned embarkation, then at least those things first needed from the hold in the first few vital days might have been somewhat more likely to come properly and readily to hand.

Any man who set out to defend the planning and staff work before and during the Gallipoli campaign would have a poor cause to defend from Kitchener to those aboard the *Aragon.* "Before and during" because the eventual evacuation at the end of 1915 of hundreds of thousands of men from beneath the Turkish heights was brilliant. Even the Germans were amazed. We are of course good at evacuation. But let us be fair, at least up to the point of sailing, as we lean over the roof parapet of Shed P and watch men and horses going aboard and cranes carefully lowering into dark holds the lorries, the wagons, the guns and the paraphernalia of war. After all, we of the exculpated Port Authority are little more than observers as we see the hatch covers secured, the deck cargo finally lashed down and the ship edged away from the quay and over and out through the Royal Edward Lock.

In the first place, the Commander-in-Chief, Sir Ian Hamilton, brought back from retirement, and his hastily assembled staff had neither reasonable time in England to get together and plan operations nor sufficient information about Mudros or Gallipoli with its inadequate beaches and the maze of northern ravines beneath the spine of central heights. Hamilton was told of his appointment by Kitchener on the 12th March and left England with his staff on the evening of the 13th. As Wellington knew, there must be time for planning and organisation between high-level decision and the first shot if a campaign is not to be already lost. Transports had been requisitioned and gathered together for the 29th Division in the first or second weeks of February, then dispersed as Kitchener revoked his decision to send the 29th. Then on the 10th March he told the War Council the Division was under orders for Lemnos. Accordingly, such suitable ships as could hurriedly be requisitioned were again assembled for the embarkation through the Royal Edward Dock between the 15th and the 22nd March. The dispersal of February transports and the hasty assembly of a second armada for a new embarkation in March had unfortunate consequences. Supplies in any sort of order were rushed down to Avonmouth and into transit sheds at the Royal Edward Dock. Too short notice was given to the Transport and Embarkation Officers about War Office requirements, even where such requirements were known. In order to keep to fixed sailing dates and in order to clear the sheds for further military consignments, a transport at a berth often had to be loaded with such stores and equipment as lay within the transit shed at that berth at time of loading together with such material as came in with the troops arriving for that transport. In all this, the role of the Port Authority's staff and of the staff of the stevedoring firm was to do what they were told by the transport officers. The landings upon the Gallipoli beaches needed detailed organisation of a high order from naval and military staffs and far more time than was allowed in those early days of 1915.

From the beginning almost to the end the Gallipoli campaign was bedevilled by gaps in the lines of communication stopping vital information from reaching those whom it should have reached. It is believed that neither the Naval Transport Officer nor the ships' captains at the Royal Edward Dock knew at time of loading that most or all of the transports were destined to arrive within a mile or two of the beaches in the role of barracks and military warehouses. The concept of a port like Havre or Alexandria where troops would land to quay and military cargo be unloaded to quay and shed for regrouping ashore would no doubt be more in the minds of transport officers. In any event stowage with a view to a fixed order in which items must be unloaded would not be the first consideration even if it were at all likely to be practicable in a rapid requisition of large passenger and cargo ships. Whatever may be the desired order of cargo discharge the prime consideration of cargo loading is the safety of the ship at sea. To apply that useful principle of *reductio ad absurdum* let us charter a large cargo vessel in the month of March to take upon some ocean voyage a great consignment of hay and a smaller but heavier consignment of iron girders. The mass of hay



IT CAN HAPPEN

"ANY PORT IN A STORM". In October 1932 the *Sheaf Crest* was heading up the Bristol Channel bound for Sharpness Dock another twenty miles up Severn beyond Avonmouth. It is not unknown for ships with deck cargoes of timber to develop a list but the list to port of the *Sheaf Crest* was alarming enough for Avonmouth to be used as a port of refuge and the steamer is moored at Shed S immediately within the Royal Edward Dock. The *Sheaf Crest* is presumably not an example of movement of cargo within ship's hold, but substantial movement of cargo in hold could bring about a similar or even more disastrous state of affairs.

arrives at port first and must be cleared from shed; the iron arrives later and in any event we insist the iron be loaded on top of the hay in order that it shall be unloaded at the first port of call since the hay is for a second port one thousand sea miles farther on where we hope to end the charter rather than pay the ship to double back to the first port which it has already passed. So the hay goes in first and now we think the heavy load of iron girders is going to lie comfortably on top of the hay somewhere up near the hatch covers. If ever such a lunatic loading took place we can be sure no sane captain or crew would sail the ship out of port even if it had not already begun to capsize at quay. The iron must clearly be the bottom loading.

Similarly, military requirements or no, a seaworthy order of stowage had to be observed. This did not necessarily prevent first things coming out first though no one should think the dark holds of these swiftly gathered great ships were akin to shore warehouses with two or three floors compartmented and shelved to carry items for immediate access. With time and good planning it might well have been better to have loaded those first requirements into smaller though possibly slower ships with space for the *élite* shock troops to go aboard for the landings while the larger ships stood farther off with reserve troops and later requirements. But the Gallipoli campaign was and in retrospect remains infinitely complex and the man who says the venture failed for this reason or that is no nearer the truth than a transport off Clevedon Pier was near the Dardanelles. Withal, the Peninsula should have been taken, but of the whole campaign, until the evacuation, it might well be said: "Error, be thou my guide."

X

1914-1919:
My Kingdom for—a Mule

BY 1914 the Horse Age was, unknown to most, drawing swiftly to a close. The horse had long been known as Man's noblest friend. The mule was regarded as a less desirable acquaintance. As a naval commander with shore experience said, the mule had a habit of not answering the helm and of veering to port or starboard for no apparent reason. The *Oxford English Dictionary* after defining the mule's pedigree adds a testimonial unusual in that august work, namely, "(Without good grounds, the mule is a proverbial type of obstinacy)". In a military menagerie Kipling passes the mule slightingly by:

> "The 'orse 'e knows above a bit, the bullock's but a fool,
> The elephant's a gentleman, the battery-mule's a mule;
> But the commissariat cam-u-el, when all is said an' done,
> 'E's a devil an' a ostrich an' a orphan-child in one."

James Milner who enlisted from a clerkship in the Port's Traffic Department graduated to become Company Sergeant-Major in the Bichazeer Squadron, A Troop, of the Imperial Camel Corps under Allenby's command in Palestine. From 1920 until 1923 the former Company Sergeant-Major would from time to time regale Ross-Johnson's hilarious and hard-working Audit Section with incidents in and from Cairo to Jerusalem. From Milner we learned certain strange attributes of the camel and were further assured that his paybook was debited up to the date of his demobilisation with the loss of four mules and a waggon when he was wildly propelled over an unseen but low desert cliff. It is sad to be the sole remembrancer of those happy years when the warriors who returned gaily sloughed off the horrors of their campaigns.

Throughout the United Kingdom horses were extensively requisitioned in the early days of the war and like those many horses already employed in military service soon began to be hapless casualties. In the nature of things there could be no early and sufficient replacement of well-grown horses from our native stock. If mules there were in and around Bristol before 1914 they were an unseen minority. As in later and greater matters, the British Government looked to the New World to redress the balance of the Old. As early as the 23rd October 1914 Donaldson's *Marina*, of 5,204 tons gross en route for Glasgow from Montreal, put in at the Royal Edward Dock to land for Government account an unrecorded number of horses to go by rail to Taunton. But more than this was needed and earlier in the month the Government had begun to set up a Remount Depot no more than a mile or two from the Avonmouth Docks on Barrow Hill, Shirehampton. For the roads within the Depot 8,000 tons of roadstone were to come down by rail from the Tytherington quarries a few miles away in Gloucestershire. This line was built in the middle of the last century, was axed and uprooted in 1966, but is now in 1972 being relaid for the limestone traffic of which massive cargoes are to come down by rail to Avonmouth for export.

It would appear that the first mule boat, the 1898 Leyland *Asian*, 5,614 tons gross and 420 feet in length, was unloaded on the 17th December 1914. Shed S near the Royal Edward Lock became the usual berth for ships putting mules ashore and between half-past nine in the morning and quarter-past two in the afternoon 878 mules from the *Asian* were shepherded, shall we say, into 89 trucks. Now it is more than likely that more mules than that were put ashore from the *Asian* since we do not know for any particular ship how many mules were put ashore to be marshalled off the dock and go in droves through the villages of Avonmouth and Shirehampton up to the Remount Depot on Barrow Hill. We do know, however, that up to the end of the 31st July 1915 when the first year of the war had nearly run its course, 80 mule boats mostly between 3,000 and 5,000 tons gross had come into dock and 65,956 mules had gone away by rail. The mules were brought almost without exception from New Orleans down in Louisiana on the Gulf of Mexico and those going by rail from Avonmouth went away west to Highbridge, Bridgwater, Taunton, Wiveliscombe, Wellington or Minehead. We know from the Dock Minutes that in the twelve months to the end of July 1915 there had been brought on Government account into the Port 128,168 horses and mules from overseas so it is fairly certain that after allowing for the 65,956 animals going away by rail, the remaining 62,212 went in droves to the Remount Depot. The droves were an interesting sight. John Cross, who many years later became Secretary of the Port of Bristol Employers' Association, recalls seeing before his enlistment convoys of mules headed by what we should regard as a cowboy clad in sheepskin-fronted trousers while one or more cowboys brought up the rear. Thus it appears on average that a ship would usually bring about twice as many mules as the rail returns show as going away by rail and that at this time about 800 mules went away by rail from a mule boat. Where the legions went, there went the horses and the mules and the Dock Minutes show that 27,923 horses and mules were seaborne from the Port in the first year of the war. Business is business and each animal in or out ranked as three-fifths of a ton for the purpose of Port charges.

There are no Port records at that time showing what made up the cargoes of ships from overseas. It may be that a few smaller Government transports were sent from this country to New Orleans for the sole purpose of bringing back mules. The majority of mule boats entering the Port had, however, remained under commercial management and British merchant shipping, loaded as fully as practicable, was bringing on average in the five war months of 1914 some 136 tons of overseas cargo for every 100 tons net of shipping as compared with 118 tons of imports during the same five months of 1913. There is isolated evidence among the Port papers that certain mule boats brought other cargo to be unloaded at the Port. The *Singapore*, 4,232 tons gross, 364 feet in length and 50 feet in breadth, put ashore on the 4th February 1915 some 660 rail-bound mules and this ship also brought grain, deals and flour for Avonmouth. Elders and Fyffes continued to import bananas at Avonmouth throughout 1915 to the extent of about three-quarters of their 1914 imports and their 14-knot *Cavina*, 6,539 tons gross, 3,998 tons net, 425 feet in length and 54 feet in breadth, launched in Belfast in 1915, made six voyages that year to Port Limon in Central America. Such proximity to New Orleans, a mere thousand or so sea miles off route, was tempting Providence and surely enough the *Cavina* turned up on the 2nd June to offload 894 mules to rail. This was an insanitary interlude for so spick-and-span a ship of which we shall hear more. Those who read *Gallipoli* by Robert James will learn not only of the appalling state for similar reasons of the transports after the 29th Division had gone ashore, but also of the terrible consequences when the totally unforeseen mass of casualties were hawked around from transport to filthy transport to put the wounded somewhere in the shade out of the blazing sun and out of the cramped fighting spaces on the peninsula. Gallipoli was Crimea come true again.

The Remount Depot at Barrow Hill, Shirehampton, was according to Stone and Wells opened in September 1914 and closed in October 1919. Its purpose was to hold up to 5,000 horses and mules at a time upon arrival from the United States, Canada and elsewhere. There the animals remained in quarantine for a fortnight or three weeks with veterinary treatment where necessary. The depot opened with a civilian staff of 1,380 men under army officers but became a military unit in 1915. In five years 347,045 horses and mules went through the Remount Depot for the British forces. Of this number, Stone and Wells record that 317,165 came from overseas, 6,712 from Ireland, 9,357 from inland points, while 13,811 came back from France after the Armistice. Colonel D. C. Carter was Depot Commandant from beginning to end but Colonel P. R. Mantell, Assistant Embarkation Commandant, irreverently known to the Port staff as "Collars and Cuffs", was a more familiar figure at the Docks. The interesting account of the Remount Depot on pages 96–98 of *Bristol and the Great War* states that at the end of 1919 when the Depot was cleared, the Bristol Corporation purchased a number of the huts to meet the housing shortage at that time.

None of the depot figures given in the last paragraph including that of 317,165 animals arriving from overseas are drawn from Port sources. From August 1914 to the month of April 1919 when the last 250 animals arrived for home pastures, two separate Port sources show that 342,720 animals, and they were mostly mules, either came into or were sent out of the Port. Of these 30,431 were outward bound so that the remaining figure of incoming animals at 312,289 begins to look quite near to the depot figure of 317,165 horses and mules from overseas; quite near, that is, until we remember how many mules went directly away down west from Shed S in railway trucks. It could be, of course, that the Depot Commandant included in his figures given to Stone and Wells the number of animals he ordered to be sent away direct from the Avonmouth Docks. We will keep to the number we know went through the Port. The first year of the war to the 31st July 1915 saw a massive movement of 156,091 horses and mules through the Port under Government direction. There came from overseas 128,168 animals and there went overseas 27,923, including 27,052 on the Gallipoli embarkations. Each year thereafter saw a decline in numbers. In the second year of the war 107,304 animals came in by the mule boats and 2,181 mules were shipped overseas. About 40,000 of the inward mules went away from Shed S by rail in the year ending on the 31st July 1916 and on that date the Port rail returns for mules going inland come to an end. We know however that in the third year of the war 51,609 mules came in from overseas and none were shipped out from the Port. In the fourth year of the war to the 31st July 1918 there arrived from overseas 22,089 mules while a final 327 were shipped out. By now the mules were being brought across the Atlantic on deck in order that more cargo might be stowed under the hatches. By the 31st October 1918 only 2,427 horses or mules had come into the Port since the 31st July and these with another 442 animals in December and a last arrival of 250 in April 1919 make up the number of 3,119 animals after the 31st July 1918. Thus in the course of the 1914–1918 war the Government sent a total of 342,720 horses and mules either inward or outward through the Avonmouth Docks.

Even to this day a horse or a mule, and preferably a horse, could be a good means of cross-country escape but already there had gone from Avonmouth mechanical transport either on two or four wheels that a hard-pressed monarch might prefer and soon there were to be brought in, assembled and sent from the Royal Edward Dock strange vehicles that travelled neither by hoof nor wheel.

XI

1915:
The Arrival of Bacchus

WAR both brings sudden changes in our way of life and sets in motion changes which only the slow processes of time will fully unfold. Early in 1915 Ross-Johnson turned his active mind to what was available for dockers in their mealtimes. In May there went before the Committee one of his informative reports headed "Proposals for a Refreshment House at Avonmouth". Up to that time, there was only a Mess Room near the Royal Edward Dry Dock recently set up at a cost of £1,041 to hold about 230 men and an old Mess Room for about 120 men near the Gloucester Road entrance. There was a daily average of over 2,000 men working within the Avonmouth Docks at this time. Outside the Gloucester Road gate was and is the Royal Hotel, a public house prominent in the 1910 Dock strike, and beyond the Royal there were in Avonmouth five eating houses which could among them take about 100 men. Early in the war the opening hours of public houses were restricted to from noon to 2.30 p.m. and from 6 to 9 p.m. In view of this Ross-Johnson wrote,

> "the question of the provision of better facilities for obtaining refreshments and the removal of the temptations offered in the public houses, has been under discussion between myself, some of the Trades Union Officials and Mr. Charles King as representing the largest labour employing firm at the Docks, and I have undertaken to endeavour to obtain the sympathetic approval of the Committee to a scheme."

The Committee were sympathetic towards a scheme for a Refreshment House within the Gloucester Road gates to take at the outset 500 men. Moreover, they set Councillor Dyer and Councillor Ayles, their two foremost dissenters from Committee decisions on other occasions, to act in the matter with the General Manager.

COUNCILLOR EDWARD M. DYER
Docks member, 1903–1942.

It is not known which of the seven Docks members present at the meeting on the last afternoon that May proposed the names of the two councillors. There were no reputed humorists among them except possibly the venerable provision merchant Councillor Sam Iles of the flowing white beard. The choice was nicely balanced. Councillor Walter Ayles was an active member of the Independent Order of Rechabites, a society with strong temperance principles based on those of the Jewish family of Rechab that refused to drink wine. Additionally the Rechab family eschewed houses and lived in tents. Councillor Dyer, on the other hand, was no stranger at the laden board and in moderation not averse to Scotland's contribution to conviviality.

In the matter of a Refreshment House, Ross-Johnson had, however, only taken time by the forelock. First Mrs. Baines and "a body of ladies from Shirehampton" asked permission to set up a tent on Dock land outside the Gloucester Gates to serve cocoa and so forth to workmen congregating there. Although Ross-Johnson and Charles King saw no objection and Councillor Ayles no doubt supported Mrs. Baines' proposal both as to beverage and booth, the Docks Committee for reasons unknown but perhaps guessable did not agree. However, up went the tent after a similar request by the Vicar of Shirehampton had been granted a month later. By this time a more august body had arrived on the scene—the Central Control Board (Liquor Traffic). This Board agreed to pay the whole cost of a temporary canteen (but not of the equipment) just outside the Gloucester Road Gate to seat 400 men, 50 foremen and 50 clerks. Canteen! "the very word is like a bell to toll us back" from pleasant thoughts of a three-storey Refreshment House. So the Gloucester Road Canteen, that lugubrious assemblage of wooden rooms under felted roofs, quickly came into being and was opened on Friday the 13th August 1915 by Lord d'Abernon, Chairman of the Control Board. The canteen was managed by a committee drawn from the employers at the Avonmouth Docks, the Docks Committee and the Trade Unions. It was designed for a life of fifteen years but ran past its allotted span through a miserable old age until 1943.

For their pains the dissenters Dyer and Ayles were sent to represent the Docks Committee on the Canteen Committee. For his greater pain the worthy Board Room Clerk, Alfred James Lloyd, a tight but, may we add, abstemious administrator, was made Secretary of the Canteen Committee, a foreshadowing of the greater Secretaryship to come. C. H. Chivers, the somewhat irascible but talented restauranteur from aristocratic Clifton who, strangely, came down to help feed the strike-breakers within the Avonmouth Docks in the 1910 strike, now became the manager with a Queen Square clerk, that eccentric Irishman, Edward MacSweeney, to help A. J. Lloyd

Councillor W. H. Ayles Docks member, 1913–1922.

T. A. Peace
Chief Docks Engineer,
1915–1931.

run the accounts and so forth. Even Thomas Arthur Peace, the Docks Engineer who recently had tried to restore the magical waters at Hotwell Spring, was belatedly put on the Canteen Committee. Altogether the Canteen Committee meetings must have been fascinating to a quiet member with a good brand of tobacco and a sense of humour. The writer joined A. J. Lloyd's staff as property clerk in 1923, sat alongside Edward MacSweeney at Queen Square and soon decided that the morass of canteen affairs was to be avoided. But that Greek goddess Nemesis who doles out happiness and misery to mortals was prepared to wait twenty years for the discriminating young property clerk.

It was of course too much to hope that the wartime pressures upon building resources would allow more elaborate premises than the Gloucester Road Canteen to be erected in the middle of 1915, and even when a subsequent postwar view of the premises has been accepted, it has to be agreed that in principle a great step forward had been taken when dock interests began to provide something well above the level of mess rooms for dock workers.

At the City Docks the busy quays and sheds lay alongside or within easy reach of highways and a choice of coffee houses, eating-houses, inns and public houses abounded where it was a livelihood to many to serve food and drink to the workers. Even here the Docks Committee had already provided a mess room at Princes Wharf for grain workers and others, and across the Harbour at Canons Marsh was another mess room which gradually developed into a canteen let to a tenant.

Alfred J. Lloyd
Port Secretary and Collector of
Dues, 1927–1943.

One might think that "canteen" was one of those words that had crept into English via our former Indian Army. It somehow has that sound; but not so, the *Oxford English Dictionary* while granting it a military use as far back as 1744 considers it probably comes from "cantina", a cellar. The Gloucester Road Canteen gave the impression within of time spent in a cellar above ground. The alluvial lands of Avonmouth cause cellars to be costly watertight affairs. The canteen had no cellar, but as will be seen from the following letter of the 2nd November 1915 from the Central Control Board (Liquor Traffic) lack of a cellar was to be no hindrance to the Board's alcoholic experiment.

> "To A. J. Lloyd, Esq.,
> Secretary, Canteens Committee, Queen Square.
>
> It is the view of the Central Control Board (Liquor Traffic) that the interests of national efficiency and sobriety would be served by the consumption of beers of lower alcoholic strength than are usually drunk in this country. The Board have accordingly examined samples of various light beers which have been brought to their notice.
>
> They are desirous of making an experiment with one of these beers, to ascertain whether it is likely to obtain any degree of popularity among men accustomed to heavier beer, and it has occurred to them that the Avonmouth Dock Canteen would be a suitable place at which to test the question.
>
> I am, therefore, to enquire whether your Committee would have any objection to putting this light beer on sale experimentally at the Canteen. It is proposed that one barrel should be obtained in the first instance and the Board are prepared to guarantee the Committee against loss in respect of this first barrel.
>
> The beer in question contains less than 2 per cent. of proof spirit. The price delivered in lots of four hogsheads or six barrels would be 38/– a barrel, so that if the beer were retailed at 2d. a pint, the profit would amount to at least 10/– a barrel."

What the Avonmouth dockers thought of this "near-beer" is not a tax on the imagination. The Board had power to authorise the sale of intoxicants at the canteen without a retailer's licence. Beer was in future to be sold at the Port canteen although after the war a licence had to be obtained to enable this sale to continue.

Thus Bacchus gained a foothold at the Avonmouth Docks. Moreover, the presiding deities who dispense or withhold favours at all beginnings ensured that in the fullness of time this first-born of the Port's canteens should become a "free house", not bound to one brewer but free to supply such delectable brew as might find favour with the quayside connoisseurs. The gods do not hand out favours without conditions; only with food could alcoholic beverages there be quaffed. "What's in a name?" Instead of a "Refreshment House" there came a "Canteen". Instead of "heavier beer" there were to be barrels, still for a few decades to be made of wood, but enshrining "near-beer". Were we in that summer of 1915 already standing upon the chilly ridge of that watershed between traditional produce and synthetic things to come?

XII

1915:
Tragic Interlude

By August 1915 thousands of the men of the warring nations were daily meeting their death by land and sea. But a point is soon reached when the human mind can no longer comprehend the personal implications of such mass slaughter and only the arithmetical sense continues to do its sums. The emotions at some point are mercifully numbed into a general sense of tragedy and only a personal loss or a local loss gives identity to anguish.

From the north corner of Bristol Bridge within the parish of St. Maryleport a flight of twenty-nine stone steps drops down to a small landing stage at harbour level. It was here that generations of Bristolians were accustomed on summer days, until modern excitements brought headier delights, to board quite small passenger steamers which puffed eastward up the Harbour, under the low bridges of the Feeder Canal where urchins abusively threw coke from the local gasworks, through the possibly changing levels at Netham Lock and so out upon the River Avon past the peril of Netham Dam upon the right (no port or starboard here) and onward through the industrial gorge of Crews Hole for a first mooring at Bees's Tea Gardens at Conham. On certain days travellers might journey on for two and a half miles to Hanham Lock, the most inland point of the Port, and onward along the lovely Avon to Keynsham, to Saltford or even on some days to elegant Georgian Bath.

It was from this little quay by Bristol Bridge or from a safer point for children in Saint Augustine's Reach that the pleasure steamer *Emily*, licensed by the Board of Trade to carry 137 adult passengers and crew, left in the early afternoon of Wednesday the 11th August 1915 to make the trip to Bees's Tea Gardens. The master of the craft was the owner Thomas Hitchens from Shamrock Villa, Clifton Wood, a veteran of such up-river trips for nineteen years past. His engineer, Arthur Williams, was also a local man. This trip was sponsored by the Pearson Fresh Air Fund by virtue of which 70,000 poor children in Bristol had up to that time been taken up to the Tea Gardens upon such outings. This day there were 130 children aboard the *Emily*, led by the tireless E. G. Tyrrell of 11 The Polygon, Clifton, who had been engaged in such good works for many years and was now aided by Mr. Burnell of the Grocery Stores, Mina Road at Baptist Mills, with seventeen other helpers. Within the hour the *Emily* moored near the Tea Gardens for the afternoon.

Such brief spells of happiness end all too soon for children and after games and then tea the children began to go aboard for the downstream journey to Bristol Bridge. The *Emily* was moored as was customary for these small steamers some fifty yards above the Tea Gardens at a point where the towing path then used for horse towage between Bristol and Bath projected into the river some five feet beyond the normal width of the towpath for a length of some hundred feet. In this vicinity the towpath was supported by a dwarf wall 5 feet 9 inches above normal river level so as both to prevent erosion and to protect the lands beyond in time of flood. The decks of these small river steamers were on average only three feet above the water-line.

By half-past five the *Emily* had steam up and the 130 children had safely filed aboard down an unfenced sloping plank. It was then while Mr. Hitchens was still on the bank that the safety valve of the *Emily* blew off steam to relieve pressure. This by no means unusual occurrence put the excited children into a panic and before Mr. Hitchens could be heard above the pandemonium half the children had rushed to the shore. A few came up the sloping plank. Others climbed on the steamer's low rail and clambered on and over the dwarf wall. The curve of the bow set the steamer's rail at a distance from the wall and here some of the frightened children vainly jumped towards the wall and fell into the water between the hull and the towpath wall. Rescuers were at hand. Albert Smith of the North Somerset Yeomanry rescued three, W. G. Hillier of Conham and Mrs. A. M. Howe of Soundwell rescued two apiece. But the waters of the Avon were murky and the number of any lost children could not readily be known.

It was the children from Baptist Mills, once the site of brass mills alongside the River Froom beyond Pennywell Road, where the loss fell heaviest. Young Edmund O'Leary and Rose Brown were rescued, but three children, aged nine and all from Baptist Street, were drowned. Victor Taynton was from No. 16, Florence Bray from No. 18 and Blanch Joliffe from No. 38 and with them was drowned Fred Claud Stagg seven years old from No. 1 Ham Lane, Stapleton. On Friday the 13th the coroner held his court in the ancient Quakers Friars hard by the walls of Bristol Castle slighted in part by the Cromwellians. The fathers of the four children were present. Each was in uniform. Which leads us back to wartime affairs at the rivermouth twelve miles of navigable water downriver from Conham.

XIII

1915-1916:

Passing Storm

WHETHER or not Napoleon said, "An army marches on its stomach", it is certainly true that the opening in 1915 of the first canteen at the Port was in line with the truth within that saying; but to a nation that had until the war to import four-fifths of the grain it needed, more than half the butter, cheese and eggs consumed, two-fifths of the meat eaten and all its sugar, the march would not have been a long one had the British Navy not been able to keep the seaways far and near open to the merchant fleets of Britain, her allies and many neutral powers. The German High Command knew this well enough.

Up to the outbreak of war some naval experts considered the submarine would mostly be useful as a defensive weapon. The Germans who had about twenty by August 1914 at first spread them out in the North Sea west of Heligoland to await the British naval raid they felt sure would quickly come. Such a dangerous and relatively useless venture did not take place. The Germans then put their undersea craft to more active use, but it should be remembered that the submarine in 1914 was by no means the developed offensive weapon it was before long to become. Few of the seventy British submarines were suitable for attacking patrols. The Germans soon began to learn lessons in submarine use that the British were slow to appreciate and the loss on North Sea patrol of three obsolescent cruisers the *Aboukir*, *Hogue* and *Cressy* within one hour on a September morning in 1914 from attack by one obsolescent German submarine must have whetted the German appetite. In the matter of submarine experience the British Navy now had the great disadvantage of a shortage of German targets.

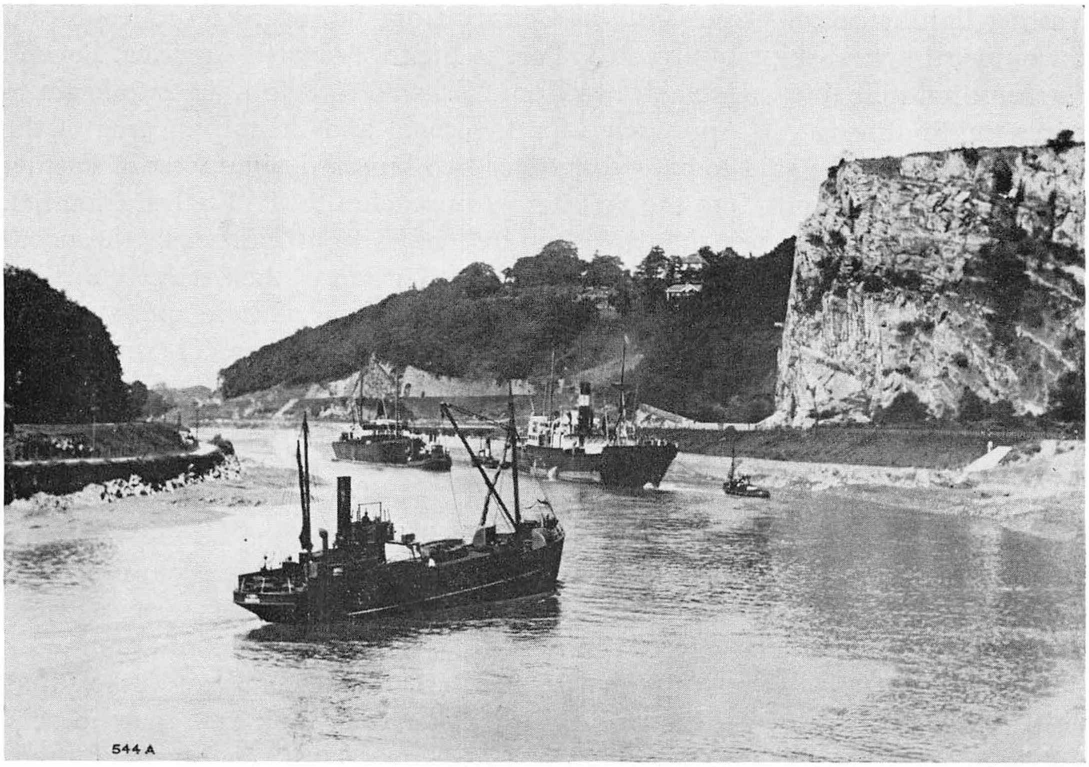
International law on naval blockade and on the right to search, seize or sink enemy merchant ships or divert them into a belligerent's own ports for the confiscation of any contraband cargo was up to 1914 based more or less on accepted practice over the centuries and on principles deemed to apply to war between civilised communities. To this complex situation should be added the conference declarations of the maritime powers some of whom made reservations or declined to ratify certain findings. Briefly it can be said that the right to blockade enemy ports so as to prevent ships entering or leaving lay with the belligerent with power to do so. In practice, however; more might be lost than gained if the trade of neutrals were destroyed and their friendship lost or their enmity incurred. But neutrals might be searched for contraband. War material and goods for the use of the enemy's armed forces could be confiscated even if carried in neutral ships. There was however an extensive Free List of goods including ores, rubber, many industrial materials, manufactured articles and machinery not subject to confiscation. This was laid down in a typical diplomats' arrangement under the Declaration of London, 1909 which the British Government did not ratify. Such principles as then declared would have been all very well in some hypothetical war which never took place in the nineteenth century but many materials on the Free List were now worth a king's ransom for mass modern war. And Holland was not at war, her ports were not blockaded and modern transport was available for rapidly carrying goods into Germany. Britain herself was trading with Holland, and British and Dutch ships sailed regularly between the City Docks and Amsterdam. Friction was also rising between Britain and America over interruption of trade and instances of marginal contraband.

To avoid complications with neutrals the British Government accepted a situation that could be argued as having some accord with international law and practice, although through the loopholes thus left there went much traffic that served Germany's war needs. Even so the British Navy's grip was felt more and more by Germany. The export and shipping trade of Germany was severely restricted and her financial position was becoming difficult. At the same time the financial centre of London had recovered from the early days of August. The Western Front was a military deadlock for Germans, French and British alike and the North Sea was almost barred to the Germans much as the Baltic and the Black Sea were barred to Britain. What then remained? To Britain there was left the golden key, the immense financial strength both at home and in the overseas investments of the banks and the great companies of Britain. So while the generals spent the manhood of Britain in mass rallies against machine-guns and barbed wire, in London committees of public servants, financiers, shipowners and men from trade and commerce were gathered under Government guidance to advise how those vast financial resources might be mobilised both for war purposes and for weaving a web of trade hindrances and refusals about Germany in the neutral markets of the world. If the complexities of international law can be given no more than a brief glance here, neither can the intricacies of wartime finance and diplomacy be recounted. It is with the reactions of Germany, the effect upon our seaborne trade and hence upon the trade of the Port that we are concerned.

By October 1914 certain German naval officers were advising that submarines should be used to attack Britain's seaborne trade. The German Government had justifiable doubts. International law and practice were at least clear that the safety of the crew of a merchant ship to be sunk or captured should be reasonably assured. The normal routine had been to put a boarding party aboard to identify the ship and ascertain her cargo. For a submarine to surface and follow these rules could be a risky operation for the undersea craft. In February 1915 Germany declared the seas around Britain to be a war zone and orders were given to the commanders of German submarines to sink at sight any ships suspected of being enemy ships. This at once brought the neutral protests the German Government had feared and in the often difficult conditions of sea warfare, particularly for a submerged submarine using only a periscope for vision, neutral shipping not even engaged in British trade soon began to suffer losses. These outrages angered neutral countries and made easier British negotiations and schemes for the restraint of trade with Germany.

British shipping losses by submarine attack began to increase. From the opening of the submarine campaign in the middle of February until the end of April, thirty-nine steamers of 105,000 tons gross had been sunk. Both British and Germans began to commit their resources to this new development in maritime war, the Germans by building more and larger submarines, the British likewise. In addition, the British Government requisitioned more fast shipping of medium size for patrol work and built fast small craft for anti-submarine activities. The success of neither of these British measures was for want of effective tracking and destruction equipment commensurate with the effort expended. Already the South-western Approach to Britain where the routes of shipping from the Americas to Liverpool and Bristol converged, was becoming the assembly point and hunting ground for the German undersea boats.

The first evidence of the presence of a German submarine in the Bristol Channel came on the 4th March 1915 with an attack on the China Mutual Steam Navigation Company's *Ningchow* of 9,021 tons gross. The 1902 *Ningchow* was chased but escaped by use of her greater speed. Like nearly all merchant ships for a long time to come the *Ningchow* was unarmed. Three days later the 1910 *Bengrove* was given no chance so to escape. No more than five miles north of Ilfracombe the *Bengrove* was torpedoed without warning and sank, though without loss of life. The Bristol Channel will for our purpose in considering the war incidents happening there be extended beyond Lundy Island to a line drawn from St. Ann's Head in the north at the entrance to Milford Haven in Pembroke and thence southwards to St. Ives in Cornwall. A voyage along that line would be one of about a hundred miles and pass some twenty-five miles west of Lundy that lies about sixty-five miles west of the island of Flat Holm, an island about five miles distant from the Somerset shore at Weston-super-Mare. Flat Holm is about twenty miles west of the Royal Edward Entrance. Lundy is some eleven miles north of the lofty cliffs of Hartland Point in Devon and about thirty miles south of the Pembroke coast of Wales. At Flat Holm the Bristol Channel has narrowed to about seven miles and at Avonmouth the opposite coast of the county of Monmouth is about six miles distant. From Lundy the



THE SEA WALLS

A MILE AND A HALF BELOW the Cumberland Basin entrance to the City Docks at Hotwells there rises on the Gloucestershire bank of the River Avon the cliffs known to Bristolians as the Sea Walls. It is the edge of the extensive plateau of the Clifton and Durdham Downs that fringe the Avon Gorge for the mile back to Brunel's Clifton Suspension Bridge and stretch back from the Sea Walls for over a mile inland. The Downs are a superb amenity in a City whose citizens are indeed richly endowed with open spaces.

On the Somerset bank of the river beneath beautiful public woodlands is Pheasant Quarry Point. Riverside quarrying on that side of the river was stopped some years ago. Around Pheasant Quarry Point beyond the footpath runs the single-track railway line to Portishead Dock. Behind the Sea Walls the double-track line from Avonmouth tunnels under the Downs to emerge at Clifton and link with the main railway systems. From the Sea Walls the Gorge slopes away to lower land at Sea Mills where the Romans established a small port for crossing to and from their garrisons and settlements across the waters where the Severn and the Bristol Channel meet.

The small coaster in the foreground is one of Burton's cross-channel coasters outward bound from the Welsh Back near Bristol Bridge. A Bristol City Line steamer is accompanied by bow and stern tugs and in passing an inward bound steamer, illustrates that the rule afloat is the opposite of the rule of the roads in this country.

Fastnet lighthouse off Cape Clear in County Cork lies over 160 miles distant for outward bound shipping from the Port of Bristol to North America. Beyond the hundred-mile line we have drawn from Cornwall to Pembroke is to begin to enter the South-western Approaches for Liverpool and Bristol, an area of the Atlantic that can be said to extend another two hundred miles west of Fastnet and merges to the south into the Southern Approaches to the English Channel. It is a distance of not less than five hundred miles from Fastnet to the north corner of Spain and another six hundred miles to Gibraltar, the western guardian of the Mediterranean. It was within the vast ocean areas of these approaches to Britain that Germany could win or at least not lose the war. There were no further submarine attacks within the Bristol Channel during March or April 1915 after the sinking of the *Bengrove.*

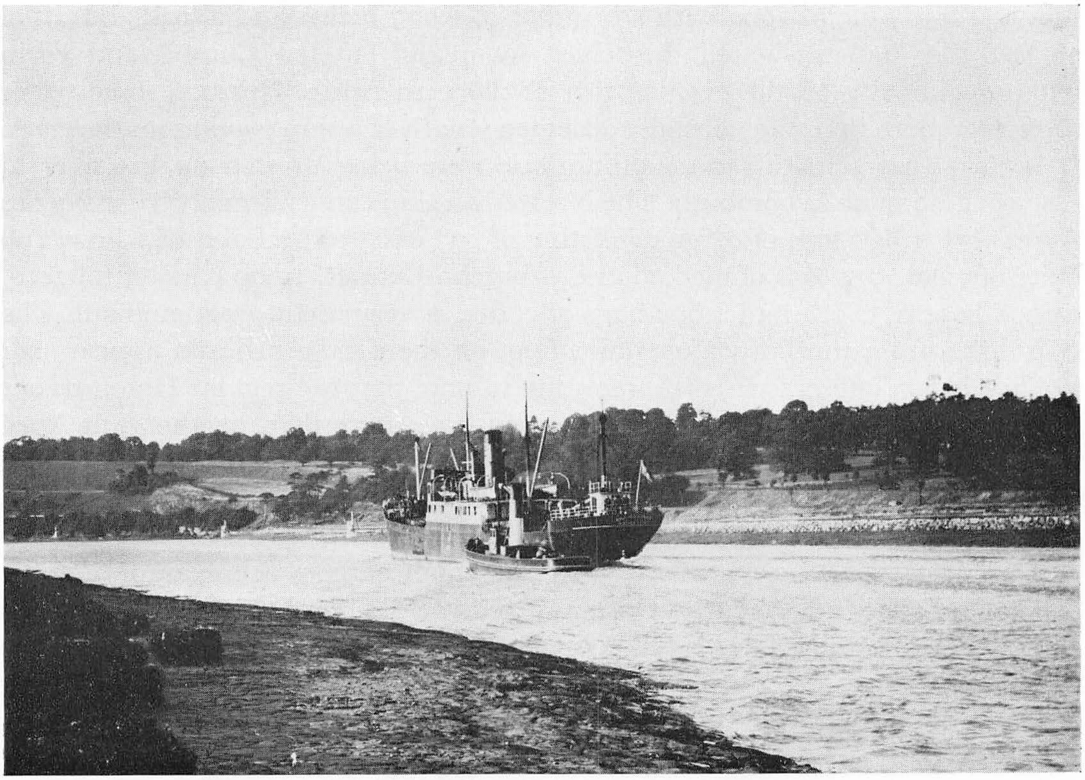
The pattern of the new way of war at sea was shown to the world on the 7th May 1915 when the liner *Lusitania*, from New York to Liverpool, was torpedoed without warning by Lieutenant-Commander Schweiger in the *U20* off southern Ireland. The liner with over 1,200 passengers and 700 crew aboard sank in twenty minutes and 1,198 people lost their lives. Of the passengers over 400 were women and children. There were 150 American citizens aboard. Within a week the American Government protested strongly to the Germans and asked that visit and search should be the rule before a ship was sunk and that no ship should be destroyed before the safety of passengers and crew had been ensured. For the moment a more potent retort to the submarine campaign and the German declaration of February that the seas around Britain were a war zone, was the British Government's Retaliation Order of the 11th March 1915 whereby no merchant vessel would be allowed to proceed on a voyage to a German port with inward cargo or from a German port with cargo loaded there, and any vessel going to any other port carrying goods intended for Germany or coming from any other port with goods from Germany could be required to unload such cargo. This retaliation was a successful turning of the screw and many neutral traders were appeased by British purchases of goods that would otherwise have been intended for Germany. Traders in some of the seaboard countries living under Germany's shadow were still willing profitably to trade with her in quantities much larger than usual, but one way or another such countries soon began to feel the power of London by discreet methods of trade and finance.

One would have thought that by the Spring of 1915 all the prize cargoes had been safely gathered in. A manuscript book entitled *Prize Cargoes* shows that from the *Rio de la Plata* arriving at the Port on the 14th April 1915 to the *Elsa* arriving on the 31st December 1917, thirty-two ships with cargoes were shepherded in under the writ of the Admiralty Marshal. The arrival of prize ships was not reported to the Docks Committee, but the *Rio de la Plata*, a Norwegian steamer of 2,823 tons gross and 1,528 tons net, was brought to their notice as a ship 333 feet 7 inches long with a beam of 48 feet 7 inches and a loaded draft of 22 feet that had navigated the River Avon and entered Cumberland Basin without difficulty on the evening tide of the 14th April. This was some six or seven feet more than the normally accepted length of a ship coming up the river. It is clear that ships up to maximum size were being pressed up the river to ease congestion at Avonmouth. The Norwegian ship came allegedly from Buenos Ayres with 1,816 tons of cargo consisting of 197 casks of beef and of tallow, 198 bales of wool, 573 tons of medicinal Quebracho Extract, 1,500 bales of tobacco, 14,908 bags of cocoa and 1,600 bags of coffee, a very useful wartime haul. The ship sailed from the Port, after unloading, on the 22nd April and appears not to have been confiscated. It is interesting to note that the regular Dutch trader *Texelstroom*, 1,601 tons gross, that arrived from Amsterdam on the 18th April 1915 sailed back on the 23rd with over 1,100 casks of cotton and linseed oil, 58 tons of tallow, 34 tons of tinplates, 39 tons of tobacco stalks and 29 tons of blackplates. These 405 tons were no doubt for assured Dutch use and guaranteed against transit to Germany. The two small cargoes are examples of the blockade of direct shipment to Germany and the discreet help given to neutrals at this time. But the *Texelstroom* arrived no more from Amsterdam after the 20th September 1915 and it was another *Texelstroom* of 1,617 tons gross built at Rotterdam in 1917 that first entered the Port on the 2nd February 1919.

The Germans intensified their submarine campaign during the summer of 1915. August 1915 was the worst month up to then and forty-two British merchant ships with a total of 135,000 tons gross were sunk out of sixty-one ships attacked by submarines. Of these August losses, thirty-two British ships were sunk in the South-western Approach where nine other merchant ships were also sunk that month. A severe loss was the White Star liner *Arabic* of 15,801 tons outward bound from Liverpool to New York and sunk without warning sixty miles south of Queenstown by the *U24* on the 19th August. Upon that day the *New York City*, 2,970 tons gross and the largest ship of the Bristol City Line, was outward bound from the City Docks to New York. To quote from John Hill's *Shipshape and Bristol Fashion* at page 64,

> "She was unarmed when she was caught by a German submarine on the 19th August, 1915, 44 miles south-east of the Fastnet lighthouse off Ireland—the last bit of land before the Atlantic Ocean is reached. Captain Barclay, in command of the vessel, was of course completely helpless to defend the ship, as he had not a gun on board, so he was forced to surrender and the crew took to the boats, but all were saved."

The arming of merchantmen with guns was limited at this stage of the war by the prior needs of the armed forces and by the refusal of some neutrals to regard ships defensively armed as merchantmen. Holland refused to allow such ships



THE HORSESHOE BEND

ABOUT THREE MILES from the mouth of the Avon and two miles below the Sea Walls is the Horseshoe Bend, a limiting factor that kept the length of ship coming to the City Docks to 327 feet in normal circumstances.

The inward-bound steamer is a Norwegian. The view is towards the Somerset bank and shows the attractive landscape above Pill, that village of pilotage fame lying about two miles from the mouth of the river.

to enter her ports and America only began to ease restrictions after the sinking of the *Lusitania.*

From February 1915 the German submarine became the main weapon in the armoury of destruction aimed against the merchant fleets. All other losses by enemy action such as surface raiders, mines and aircraft were to be but one-seventh of the total damage done during the war. The summer of 1915 showed the weight of the storm to come. In August alone 148,000 tons gross of British merchant shipping was lost by all forms of enemy action and this despite the almost disproportionate increase in ships and fast craft devoted to the hunting of the U-boats. Fayle tells us at page 104 of his second volume that at the 30th August 1915, 2,180 small armed ships, trawlers and motor-boats were engaged in anti-submarine activities in British waters alone. There were successes for the hunters and twenty German submarines had been sunk since the outbreak of war, but compared with the number of ships sunk, the successes were few and far between. On the 21st August the Leyland liner *Nicosian* of 6,369 tons gross arrived on the third of her five entries to Avonmouth that year with a cargo of mules. The *Nicosian* was passing through the South-west Approach seventy miles off the south coast of Ireland on the 19th, the day when both the *Arabic* and the *New York City* were sunk many miles away from the *Nicosian.* The submarine *U27*, out beyond the range of attack by small craft, was in the course of engaging the *Nicosian* when surprised and sunk by the decoy-ship *Baralong.*

The adventure of the *Nicosian* at the sinking of the *U27* by the decoy-ship *Baralong* was not the only encounter of the Avonmouth mule boats with a German submarine. In the earlier years of the war before there were guns enough to equip the majority of merchantmen, many masters erected dummy guns to deter submarines. The commander of the *Nicosian* adopted this ruse. Surely enough on one occasion a German submarine delayed approaching the ship before at last venturing closer to attack with gunfire, but this lapse of time was sufficient for help to draw near and the submarine withdrew. In the month before the sinking of the *U27* by the *Baralong*, the *Anglo Californian* of 4,618 tons net was on the 4th July 1915 pursued by a U-boat when about ninety miles south of Ireland on a voyage from Montreal to Avonmouth with horses. Much damage was done to the zig-zagging *Anglo Californian* by gunfire. Captain Parslow and twenty of the crew were killed before the Captain's son took command. The submarine had by now drawn near and escape seemed hopeless until two destroyers arrived in answer to the wireless calls of the *Anglo Californian.* The U-boat disappeared and the mule boat after escort to Queenstown arrived at Avonmouth on the 7th July. The *Anglo Californian* made seven voyages to Avonmouth that year and up to the 12th August 1915 the *Anglo Colombian*, 3,006 tons net, had made six arrivals, but on the 23rd September when the steamer was off Fastnet and inward bound with mules for Avonmouth the

Anglo Colombian was shelled by a German submarine and sank though without loss of life.

The Leyland Line's 1895 *Armenian*, of 5,754 tons net, 530 feet in length and with a speed of 14½ knots, had already made arrivals at Avonmouth on the 11th April and 23rd May 1915. In the early morning of the 28th June Captain Irickey on voyage from Newport News to Avonmouth with 1,422 mules was steering to pass ten miles north of Lundy when he was warned by wireless of submarine danger in that vicinity. He changed course south towards Trevose Head some fifty miles south on the Cornish coast near Padstow. Shortly before seven o'clock the *U38* was sighted. After an attempt to ram the *U38*, Captain Irickey put on full speed towards Trevose and for an hour the *Armenian* was pursued, shelled some fifty times, set afire and finally put out of action by explosion in the engine room. The ship lay helpless twenty miles from Trevose Head. The white flag was hoisted but shelling continued. Twenty-nine men including twenty American cattlemen were killed. The survivors took to the boats. The Captain first saw that the hatches of the lower hold were battened and other buoyancy measures taken. It took two valuable torpedoes to finish the *Armenian.* A remarkable sight ensued. The *Armenian* sank bow first with half her length reared vertically in the air. The survivors were rescued next morning and landed at Avonmouth. Captain Irickey was awarded the Distinguished Service Cross and three other men received the Distinguished Service Medal.

Apart from the sinking of the *Armenian*, the Bristol Channel was, in the light of later events, strangely free from submarine attacks in the Port year that ran from May 1915 to April 1916. There were only two other sinkings. The *Drumcree*, a useful 1905 steamer of 4,052 tons gross, was torpedoed without warning eleven miles north of Trevose Head, Cornwall on the 18th May 1915 and on Boxing Day, 1915 the *Cottingham* of 513 tons gross was captured by a German submarine and sunk by gunfire with the loss of seven lives. Five ships escaped that year from encounters with submarines in the Bristol Channel. The Glasgow Steam Shipping Company's *Kelvinia*, 5,039 tons gross, inward bound to Avonmouth, was chased on the 31st May, was rescued and arrived at Shed S in the Royal Edward Dock on the 2nd June. The *Teespool*, 4,577 tons gross, escaped by speed on the 9th June when attacked by gunfire and a day later Donaldson's *Orthia*, 4,225 tons gross, also outdistanced the pursuing submarine to arrive at Avonmouth on the 12th. A torpedo fired at the *Moto*, 1,941 tons gross, missed its target on the 10th August and presumably it was the same submarine that two days later aimed at and missed the armed transport *Woodfield*, 3,584 tons gross and 350 feet in length, as it journeyed up Channel to enter the Port for the twenty-sixth time since arriving exactly one year before on the 12th August 1914 to take part in the First Movement. But on the 3rd November 1915 the *Woodfield*, after a running fight, was captured by a German submarine forty miles east of the Straits of Gibraltar and sunk by gunfire with the loss of eight lives.

After the sinking of the *Cottingham* south-west of Lundy on the 26th December 1915 there were no attacks by German submarines within the Bristol Channel until nearly a year later in December 1916. The only war casualty in the Channel until the last month of 1916 was the loss of the *Kelvinia* that had been attacked down Channel in May 1915. This steamer arrived at the Royal Edward Dock from Newport News, Virginia on the 1st September 1916, quickly put ashore a consignment of mules and sailed again. The next day the *Kelvinia* struck a mine about twenty miles north of Lundy and sank though without loss of life. This absence of the enemy from the Bristol Channel throughout most of 1916 and indeed his comparative absence from the South-western Approaches south of Ireland, as distinct from the Southern Approaches to the English Channel, will call for comment as the course and cause of events at the Port in 1916 are narrated.

XIV

1915-1916:
Within the port

THROUGHOUT 1915 the Port Authority had to overcome a mass of problems at Avonmouth while many buildings and much land on and near the quays were barred to Port use by military occupation. Liaison with military or naval personages was a leathery business; they not only had an understandable priority in power but also less understandably an apparent priority in always being right. By the 1st September 1914 when that fine and kindly Port Surveyor, George Butler, sent in the first of his many reports on dock buildings and land in military and naval occupation, it was found that nearly a quarter of a million square feet of building space as well as 35,000 square yards of land were in Crown occupation. Five transit sheds had gone from the Port Authority's use. In the Royal Edward Dock Shed O and Shed S came back into Port possession during the autumn, but within the Avonmouth Dock the greater part of Shed N was used for naval stores until the 25th October 1915 and Transit Sheds 1 and 2 were retained for Army stores for even longer than that, to the detriment of many ships including the shuttlecock *Spilsby*. And here, for a little light relief, we leave George Butler at his thankless task of trying to identify, measure and record throughout the War the fluctuating but extensive and often unauthorised occupations and encroachments of His Majesty's Forces.

On the 29th May 1915 Thomas Peace, the Docks Engineer, celebrated Oak-apple Day by writing to Ross-Johnson,

> "I notice there are a number of Military tents in various positions on the Dock. Now that the finer weather is here no doubt these will increase. Smoking also takes place round them and a small fire occurred to the dry grass near the Continental Hotel where one or two tents have been fixed. Do you think it would be as well to insist upon a screen of ashes round the encampments say 4 ft. wide? This would prevent grass fires from spreading."

On the 1st June, a copy of this letter was sent to Colonel Mantell, the Assistant Embarkation Commandant at Avonmouth, with this comment in a letter from Ross-Johnson.

> "The chronic danger from promiscuous smoking which has been going on all over the Dock has of course been brought to your notice frequently, and it is useless for me to comment on it further, but I shall be glad to know whether you are disposed to use the safeguard which the Docks Engineer

> suggests in regard to laying a screen of ashes around the several encampments."

On the 2nd, the Colonel replied

> "In answer to your letter dated 1st June 1915, No. C. 2397a, I do not agree that the fact of a large number of men being housed in tents has increased the danger of fire occurring in the Docks. I could understand this danger if the grass was 2 or 3 feet high as in India or South Africa.
>
> As regards paragraph 2, I am not aware of any promiscuous smoking by the troops all over the Docks. The men certainly are not allowed to smoke in the sheds or on the wharves."

If the first paragraph seems to reflect the experience of the Mutiny and the Boer War, the second might reflect some knowledge of the alleged habit of the African ostrich. It is never wise to write out an alibi for an adversary, particularly an adversary of the calibre of Ross-Johnson who replied next day.

> "I note you do not consider that any special precautions against fire are necessary on that portion of the dock where a large number of men are housed in tents.
>
> It seemed to me advisable to draw your attention to a possible danger which I still venture to think you have somewhat under-estimated. The more remote parts of the dock carry a very heavy crop of high grass during the summer.
>
> As regards the question of smoking on the dock, I fear it will serve no purpose to argue the matter. The fact that smoking is now generally indulged in round the quays by both soldiers and civilians is not only notorious but can be observed by anyone at any hour of the day".

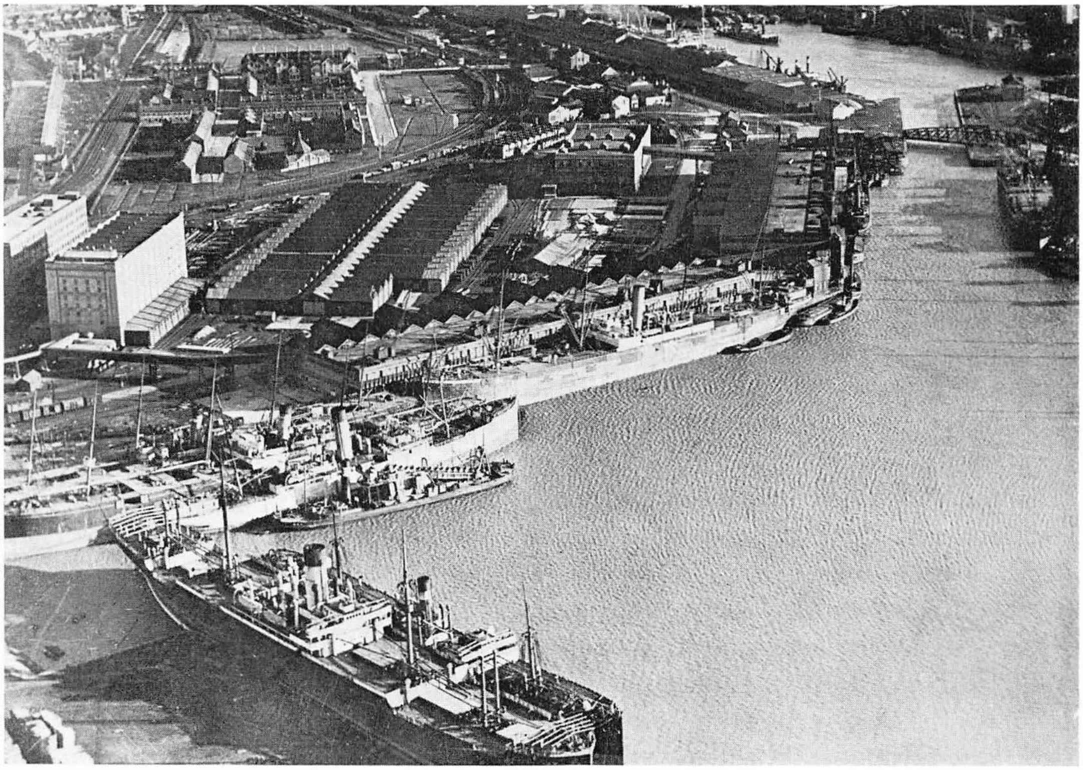
To which there was no reply.

The requisitioning of at least one piece of land by the Army was welcomed and indeed largely brought about by the Port Authority. In February 1915 the Government set up the Advisory Committee on Congestion at British Ports. Lord Inchcape was Chairman with fifteen members from the principal British ports. Ross-Johnson represented the Port of Bristol. Sir Frederick Dumayne was Secretary. The Committee's first report on the 1st May 1915 is of great interest but it is too long even to summarise here. Among the gems, however, is the information that at one time the Sugar Commissioners had their Liverpool stocks spread over twenty-eight acres of transit sheds. London and to a lesser degree Bristol were congested for a similar reason but Ross-Johnson proposed to get Avonmouth somewhat cleared by barging sugar to Bristol warehouses. The Congestion Committee recorded on the 1st May that at Avonmouth the Army's Base Supply stores, some of which came from inland and went back inland, spread over as much as one-third of the transit shed space. In that early summer the Congestion Committee on Ross-Johnson's request saw to it that a contract was placed for a Base Supply Depot to be built at a cost of £25,000 on three acres of Port land between Transit Sheds O and P and the Royal Edward Granary which was a hundred to a hundred and fifty yards from the waterside and fed at this time with inward grain borne on moving bands in underground tunnels. The War Office bore the cost of the new depot and the Port was to take over the building by agreement at the end of the war. Half the building was taken over by the Army on the 4th November 1915 and most of Shed N in the Old Dock was handed back to the Port. The other half of the new depot was ready for the Army early in 1916. At a later stage in the war Ross-Johnson reported that seven-eighths of the traffic at the Base Supply Depot came from inland and went back inland.

But if as soldiers sang in France "Old soldiers never die, They only fade away" neither did the habits of their seniors change at Base Supply. The quayside Transit Sheds 1 and 2 in Avonmouth Old Dock did not come back from the Army and three thousand square yards, being most of Transit Shed S on the quayside of the Royal Edward Dock, were stacked with Army motor tyres from the 1st January to the 1st August 1916. Most if not all were old tyres back from France and when the Army were eased out from Shed S, half an acre at the back of Sheds S and Q was covered with great heaps of tyres which were even stacked against the back verandahs of both Shed S and Shed Q. That effectively blocked use by the Port of the rear railway lines at both transit sheds. Clough's noble poem: "Say not the struggle naught availeth" may be good battlefield stuff, but no member of Ross-Johnson's staff could quote it with conviction.

The effect of withholding these transit sheds from Port use is shown by the time that elapsed between the day of arrival of ships at the Port anchorage in Walton Bay and the day when the unloading began at a transit shed berth within one or other of the Avonmouth Docks. During November 1915 twelve cargo ships waited from four to eleven days. In December, eleven such ships waited from eight to fourteen days and in the first month of 1916 six ships waited from sixteen to twenty-five days. Now a ship with cargo arriving at Avonmouth at this time brought on average about four thousand tons of urgently needed merchandise. These twenty-nine ships lost 222 waiting days or 193 waiting days if we allow one day in normal circumstances from Walton Bay to unloading berth. A round voyage of a 10-knot steamer from Avonmouth to New York, 3,049 sea miles distant, could take some sixty days with loading and unloading so that the delays at Avonmouth in those three months robbed the country of at least three round voyages and 12,000 tons of vital supplies whether for war or for commercial purposes.

When Mayday 1916 came round, the Queen Square pundits duly began to work upon the figures for a year entirely spent under war conditions. We briefly look over their shoulders. For the Port it was not so disastrous after all. Fewer cargo ships came from overseas, but the ships were usually more heavily



The Royal Edward Dock

To take this aerial photograph in the early nineteen-twenties the pilot flew in along the line from the magnetic North that lies 16·35 degrees west of the geographic North. Below us lie two steamers at the North Wall. Straight in our line of view is Shed P and we can guess the length of the steamer moored there by knowing that the shed is 500 feet in length. Alongside the open space north of the shed three steamers are packed in with a Port bucket dredger nearby. From Shed P the grain conveyor bands run in their overhead housing to the Royal Edward Granary. Between the Granary and Shed P is the Base Supply Depot which the Port eventually persuaded the Government to erect during the war to release storage space in Port transit sheds. This depot was bought by the Port after the war for use as the Royal Edward Warehouse. Beyond the warehouse lie railway lines from Avonmouth to Filton and London. Avonmouth village is seen in the background.

From the main water area of the Royal Edward Dock we can look beyond the shipping at Sheds O and R towards the Junction Cut that formed the link between the Royal Edward and the Avonmouth Dock.

loaded so that cargo from overseas added up to very little less than a year before. Coastwise ships and coastwise cargoes made a poor showing. We find that nearly as many war transports came in as overseas cargo ships and as we might expect from the size of the ships that went to the Dardanelles the total tonnage of war transports for the twelve months was much greater than that of all the cargo ships that came into the Port that year from overseas.

Only 691 trade cargo ships came into the Port from overseas during the year ending on the 30th April 1916, but these ships with a total tonnage of 1,262,000 tons net brought in 1,752,000 tons of cargo and that was only 11,000 tons of cargo less than 759 cargo ships of 1,425,000 tons net had brought from overseas the year before and only 87,000 tons less than the 978 ships of 1,568,000 tons net had brought from overseas during the last Port year of peace that ended on the 30th April 1914.

By the 1st May 1916 it was more than fourteen months since the order had been given to German submarines to sink at sight enemy ships in the wide sea areas around Britain. In the twelve months to the 30th April 1916, British merchant shipping losses by enemy action amounted to 330 ships of 1,072,000 tons gross of which 248 ships of 885,000 tons gross had been sunk by submarines and the lives of 2,267 merchant seamen and civilians lost. These figures include the loss of 1,198 lives on the 7th May 1915 when the *Lusitania* of 30,396 tons gross was torpedoed without warning off Ireland fifteen miles south from the Old Head of Kinsale. To replace the 1,072,000 tons gross of British merchant shipping only 669,000 tons gross had been built in this country or bought abroad to add to the nation's merchant fleet. The Port of Bristol at this time was receiving about 4 per cent of the trade shipping coming into the ports of the kingdom and handling about 3·8 per cent of our trade imports from overseas. The national figures for all ports in the country show that in the year that ended on the 30th July 1916 some 31,611,000 tons net of shipping, about three million tons less than the year before, brought in from overseas a million tons more of trade cargo at 46 million tons. It may be remembered that in 1913 the peace-time imports into the United Kingdom were estimated at about 55 million tons. The pattern at the Port was therefore much the same as for the kingdom as a whole in that fewer ships were arriving but carrying as a rule much heavier cargoes. The Port however, thanks entirely to Avonmouth and Portishead, had only drifted away from its pre-war trade imports from overseas by about 5 per cent whereas the national fall from the 1913 trade imports was about 16 per cent.

When we find that during the Port year that ended on the 30th April 1916 the war transports entering Avonmouth and to a much lesser degree Portishead Dock numbered 668 ships of a net tonnage of 1,788,000 tons and that these transports brought in 147,000 tons and took out 314,000 tons of war cargo, we become aware of the way in which the capacity of the Port was being explored as never before and we realise the burden being carried by both the permanent staff and the regular dockers who by now had been depleted by more than one-fifth of their pre-war numbers by those who had gone to join the armed forces.

The nation's coastal shipping was going from bad to worse. Whereas in the year immediately before the war the entry of coasters into British ports had added up to 37 million tons and in the next year had fallen to 30 million tons, in the year to end on the 31st July 1916 the tonnage of coasters coming into British ports had fallen to 24 million tons. We do not know the quantity of goods they carried in and out of all the ports in the kingdom. The Port's coastal arrivals followed suit in that from the entry of 8,292 coasters of 1,055,000 tons net in the Port year 1914, only 7,377 coasters of 970,000 tons net entered in the next twelve months and only 6,032 of 758,000 tons net in the wartime year that ended on the 30th April 1916. We know the cargo quantities the coasters carried in and out of the Port; it was 1,603,000 tons in the 1914 Port year, 1,403,000 tons in the following year and 1,240,000 tons in the year up to the 30th April 1916. By this time many of the larger and medium-sized coasters had been requisitioned for naval purposes and many coastal seamen had gone to the war.

Amid the clatter of war and the rising glow of the inflationary bonfire, the Port finances began to drift away from peacetime levels. In the Port year up to the 30th April 1914 the principal sources of revenue were £81,000 from dues on ships, £89,000 from dues on goods, £193,000 for handling and storing traffic, £13,000 from rents of property and £13,000 from other sources to make up £389,000 of gross or working revenue before taking into account money received from the rate-in-aid and interest on certain monies. For the Port year ending on the 30th April 1916, the working revenue rose by one-third to £521,000, the great increases being in the dues on ships and goods and in traffic charges. To the ratepayers came solace that was no doubt largely unheeded. The rate-in-aid to the Port from the city, a figure that stood at the high-water mark of £154,000 in both 1910 and 1911 and had only fallen to £122,500 by 1914, was now in the year 1916 reduced to £97,000. But alas, all those six ancient imposts that we conveniently call the City Dues, brought into the Corporation coffers in 1916 only £12,405 18s. 7d. which was about half the City's harvest in 1910.

The immediate decline in trade that began at the City Docks when war broke out continued upon that downward course in the twelve months to the end of April 1916. In the 1914 year 1,691,000 tons of imports overseas and coastwise had come up the river into the City Docks, but in the Port year 1916 trade fell half a million tons to 1,189,000 tons. The City Docks had lost much Continental and Baltic trade and all the Black Sea trade. The Harbour's trade was less by 180,000 tons in grain alone, by 70,000 tons of sugar and by about

200,000 tons of coastwise imports. Even the Irish cattle trade at the City Docks fell from 48,000 animals in 1914 to 16,000 in 1916. Avonmouth stood still near the 1914 imports of 1,120,000 tons while Portishead imports went up from 158,000 tons in 1914 to 284,000 tons in the Port year 1916 by virtue of 45,000 tons more grain and 69,000 tons more oil, much of which went to the Army in France through the installation of the Anglo-Saxon Petroleum Company who had now leased from the Port another 3 acres of land to add to the 6½ acres already held as an oil installation at Portishead Dock. The year that ended on the 30th April 1916 was to be the last Port year in which the total imports at the City Docks were to exceed those at Avonmouth. In 1914 the supremacy of the City Docks over Avonmouth was measured by an excess of 570,000 tons of inward cargoes coastwise and from overseas. By 1916 this lead was down to 67,000 tons. The great predominance of the City Docks over the Avonmouth and Portishead Docks was now to end within a span of only ten years from the death of Alderman Proctor Baker that arch-apostle of the City Docks.

XV

1915–1916: The Cult of the Caterpillar

AT the end of an earlier chapter on the traffic in mules that came to pass through the Port from October 1914 onwards, reference was made to strange vehicles that were soon to arrive and travelled neither by hoof nor wheel.

On the 3rd March 1916, Captain Humphries and Lieutenant Harrison from the depot of the Caterpillar Section near Aldershot arrived to see if there was land at Avonmouth suitable for a caterpillar depot. There was and a secluded site at that—some fifty acres along the Severn shore of the Royal Edward Dock north of the western arm known in 1913 as the Timber Channel and now becoming the Oil Basin. The site also had the great advantage that a Port siding ran along the length of the landward boundary on its way to join the Dock Exchange sidings and thus link with the Railway Companies' main lines. The two officers were favourably impressed with the site and remarked upon the good work that had for some time past been done at Avonmouth in handling heavy tractors for the Caterpillar Section.

The basic principle of the caterpillar, supplanting for special purposes both the wheel and the hoof, is now so familiar to us that it needs no description here and in any event the photographs now shown display caterpillar tracks as used for propelling a traction engine. The caterpillar was invented and commercially developed in the United States for agricultural purposes in rough or muddy conditions where even the heavy steam traction engines with large grooved wheels would be bogged down or otherwise baulked. The possibilities of the American caterpillar system were early realised by the military as a result of the herculean labours called for from both men and horses struggling in a morass of mud to move heavy artillery on the Western Front. From the United States caterpillars were shipped to various British ports early in 1915, then railed to Aldershot where Caterpillar Traction Engines such as we see in the photographs were built up and sent to various ports for shipment to France. Liverpool and Avonmouth were notably the ports through which military transport vehicles were sent to France. These tractors could then easily pass over mounds, hollows and ditches when impassable to the steam traction engines of that time.

At the meeting of the Docks Committee on the 1st May 1916 Ross-Johnson reported that the War Office under the Defence of the Realm Act had taken up the piece of land already described "for the purpose of storing and manœuvring caterpillars". His report went on to say

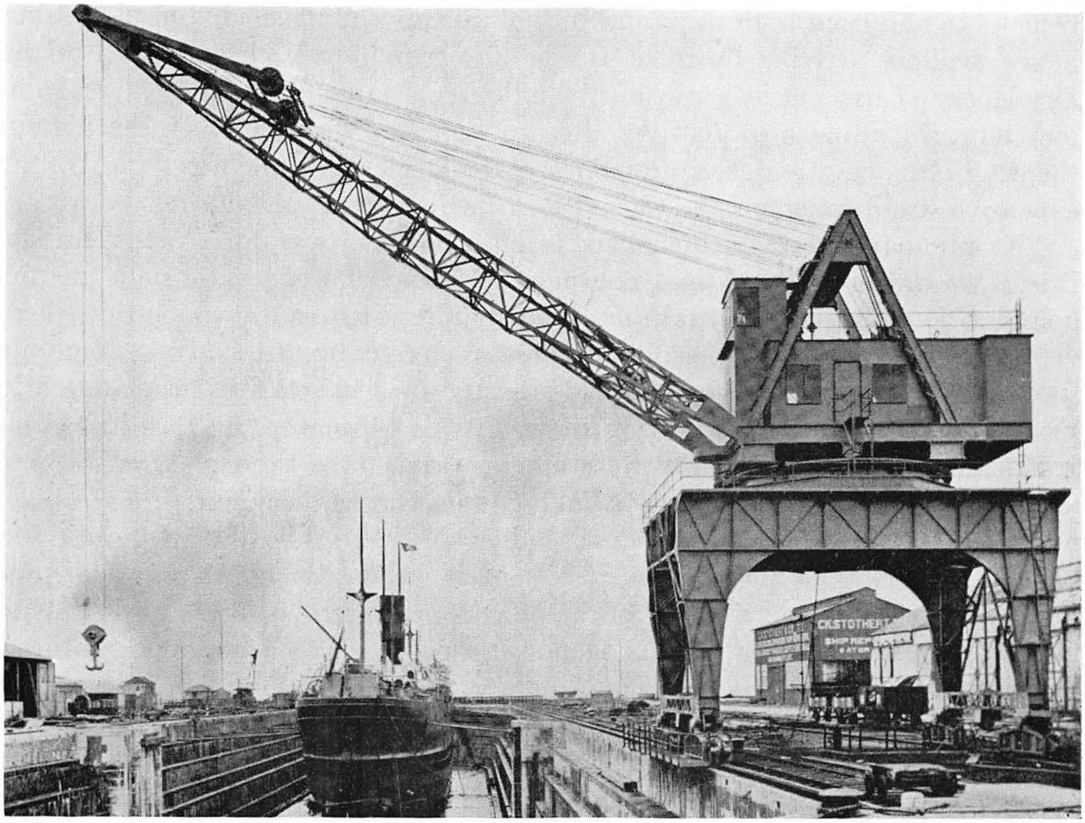
> "The intention of the War Office is to utilise this land as a caterpillar lorry depot which has formerly been maintained at Aldershot. The vehicles, which are imported from abroad, will be brought in to the Royal Edward Dock and discharged; damaged ones from the various seats of war will also be brought in by the transports and landed, and the vehicles will be overhauled, put together and despatched by transports."

The weight of the vehicles equipped with caterpillars and now to come to the Royal Edward Dock would be considerable. Neither the 30-cwt roof cranes at Sheds O and P, the 2-ton quay cranes at Sheds R, S and T nor the 10-ton crane on the south side of the Dock would be capable of lifting the caterpillar vehicles soon to arrive. The use of the 30-ton coaling crane situated in the Avonmouth Dock was ruled out as disrupting the essential work of bunkering ships. On the 26th April Ross-Johnson wrote to T. A. Peace the Docks Engineer as follows:

> "It is the intention of the War Office to import the caterpillars direct into the Royal Edward Dock, which had previously been landed at Liverpool and other ports and sent by road to the depot at Aldershot. This depot will be established at Avonmouth and the caterpillars will be imported direct to these docks, assembled, repaired etc. and exported without leaving the docks area.
>
> Until the extension of the 25-ton crane track is completed the only methods of discharging these heavy vehicles will be by putting the ship into the dry dock when it is available."

The letter goes on to urge the Engineer to proceed rapidly with extending the track for the 25-ton crane from the north side of the Royal Edward Dry Dock towards the quayside of the Dock itself so that the crane could be moved along the extended track to lift these heavy vehicles to and from ships berthed outside in the wet dock near the entrance to the Dry Dock.

This awkward improvisation was only made possible by the lengthy overhang of the 25-ton crane as shown in our photograph. The contract price of £662 for this track extension was higher than expected but not so unexpected as the contractor's final bill of £1,380 which was brought about by the need for work quite outside the contract, namely, the necessity for piles of exceptional length to support the extended track that had to support this great crane. The site was on or near the old course of the River Avon when it flowed north of Dumball Island before choosing some time around 1870 to flow south of the island which gradually became attached to the mainland of Gloucestershire. The adjacent Royal Edward Lock was in fact built through the former island. By August 1916 the track was laid and the 25-ton Dry Dock crane was not only lifting caterpillar



THE 25-TON CRANE AT THE ROYAL EDWARD GRAVING DOCK

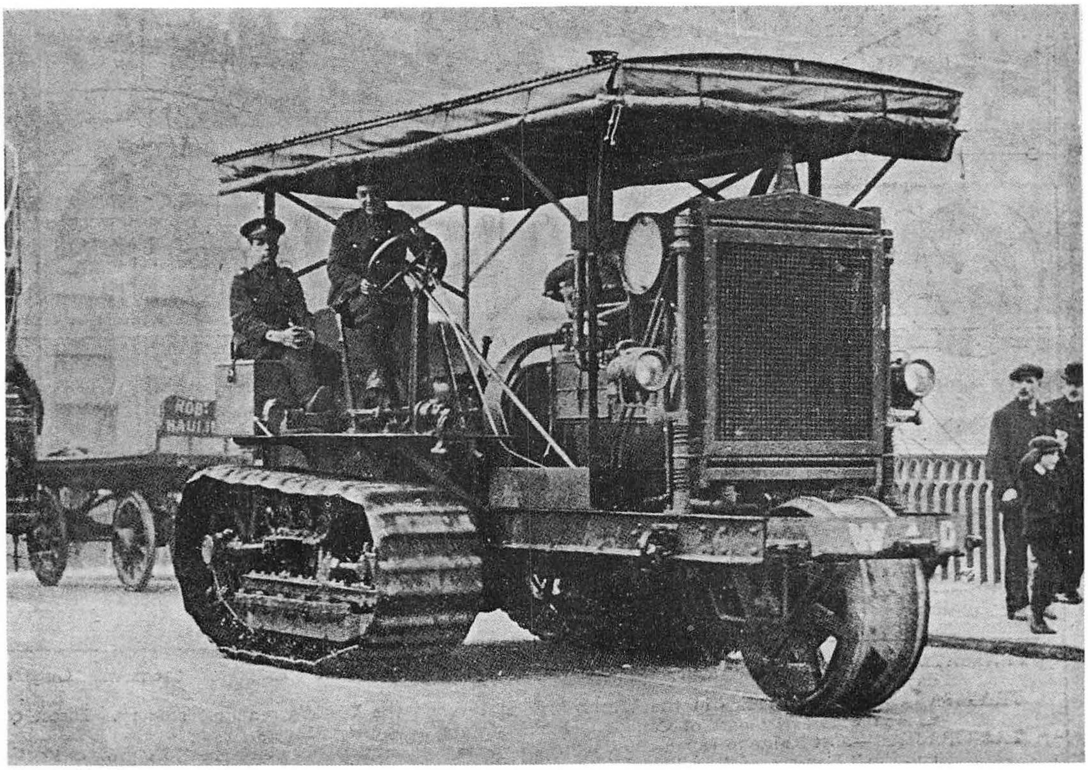
THE VIEW HAS BEEN TAKEN from the walking-way across the top of the movable caisson at the entrance to the Graving Dock. This dry dock, 875 feet in total length with a width of entrance of 100 feet to match the adjacent Entrance Locks and a depth of 32 feet of water on the sill, was with the 25-ton crane part of the original 1908 dock. This photograph from the 1913 Port Handbook well displays the great outreach of the crane. The 1913 maps in this volume show how both sides of the Dry Dock are rail-connected so that marine boilers, machinery and so forth could be brought alongside ships under repair.

vehicles to and from both ships and special railway rolling stock, but also lifting heavy artillery arriving by road. It was also trundling back and forth to the Dry Dock to carry out its heavy duties in the repair and adaptation of naval and merchant ships that crowded one after another into the Dry Dock throughout the war. This heavy and exceptional use of the Dry Dock crane was typical of the expensive strain to which all kinds of Port facilities were put during the war.

The photograph of a caterpillar tractor passing over St. Philips Bridge, Bristol was taken not later than February 1915 and that of several such tractors going up Park Street dates from not later than April 1915, by which time these vehicles equipped with powerful four-cylinder engines up to the best automobile standards, were being overhauled and adjusted by a Bristol firm for despatch to France. By the time of the visit of the two Army officers to the Port in March 1916, these caterpillar tractors were coming back from France and elsewhere for repair. Up to then the tractors damaged on war service were brought back to Liverpool and either railed on a crocodile wagon to Aldershot or towed there by road. After repair the tractors were sent to various docks for outward shipment. Ostensibly, then, the visit of the officers in March 1916 was to find a site for the establishment of a Tractor Depot at a port such as Avonmouth in order to avoid the journeys to and from Aldershot and thus relieve pressure on the railways. Even so we may already begin to prick up our ears and wonder whether it had really taken the military some twelve or fifteen months to come to such an obvious arrangement at one of the two western ports long since selected for the overseas transport of military vehicles.

Some time during that summer of 1916, J. A. Philpott, then a youthful clerk and later to become one of the principal officers of the Port, was in the vicinity of what came to be called the Tractor Depot when he saw large shapes completely draped in tarpaulins. He was told that these were "tanks" going to France. "Tanks" seems to have been a code name, a camouflage that stuck, since an engineer at Lysaght's constructional ironworks at Netham told me after the news of the famous "tank" assault at Fleury that for some time past they had been on Government work making parts for "tanks". It was said down at the Docks that the tanks that launched the attack on the Somme were shipped from Avonmouth.

But after much research among such Port records as remained and some searching of the indexes and some scanning of military histories too long to read throughout, there seemed little more than the circumstantial evidence already given to take to the bar of history and declare: "Here from this quay went the British tanks that made the first such assault in world warfare at the battle of the Somme on the 15th September 1916." One dare not even ask the Port Authority to put up a likely plaque near the north corner of the entrance to the Royal Edward Dry Dock. Even File F/3793, "Shipment of caterpillars to France or



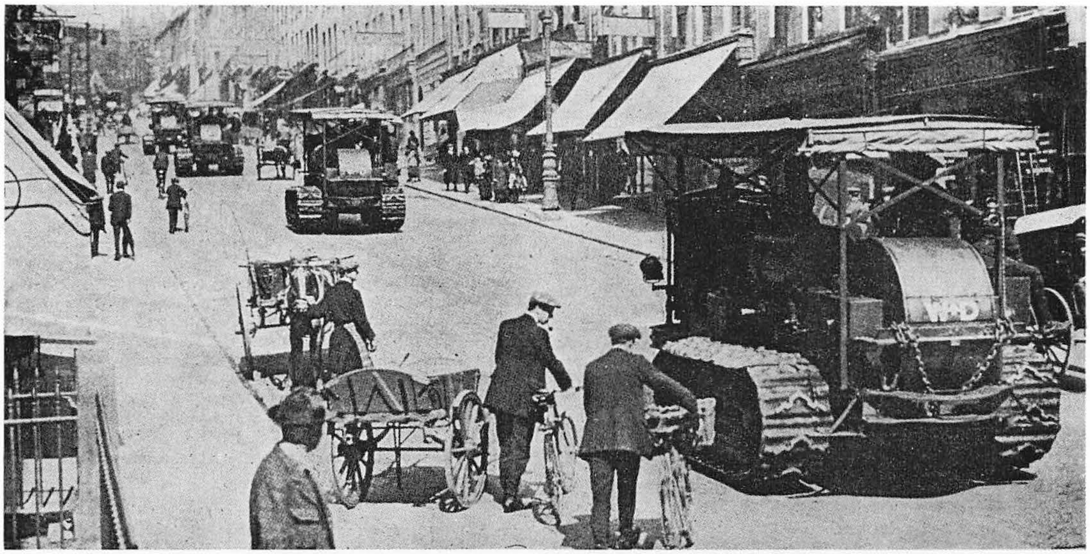
Caterpillar Traction Engine, 1915

This photograph taken by Mr. Stevens of Arley Hill, Bristol appeared in the issue on the 6th March 1915 of a wartime magazine *Bristol and the War*. The vehicle is described as "One of the famous Caterpillar Traction Engines passing over St. Philips Bridge". This bridge will be seen on our 1913 map of the City Docks as crossing the Floating Harbour a short distance above Bristol Bridge. The bridge seen in the photograph was erected by the Corporation in the 1870's to replace a lighter structure built by a company that obtained Parliamentary powers and opened a toll bridge there in 1841 in place of the ancient Counterslip ferry. The busy ferry had crossed the Floating Harbour, formerly the tidal Avon, at the bend of the river so as to carry passengers between the southern or Temple parish bank and a point near the Castle Ditch. Thus in former times the ferry would have been very much under gaze from the walls of Bristol Castle that stood nearby to the west flanked by both moat and river.

The caterpillar traction engine is heading eastwards into St. Philips which with St. Philips Marsh alongside the Feeder up to Netham, was then the most industrialised part of the growing city.

In the issue of the 1st May 1915 *Bristol and the War* stated that the "caterpillars" came to an unnamed local firm "to be overhauled and adjusted before being sent to the war area".

The traction engine is being followed by a horse-drawn haulage flat and by an electric tramcar bound for Old Market Street and powered from the shadowy building seen in the background, the central power station of the Bristol Tramways and Carriage Company. From this distinguished structure there curved forth from two portholes near harbour level circular columns of water returning to the Floating Harbour from which the water had been abstracted. On the pavement a small boy covers his ears.



FIVE CATERPILLARS CLIMBING UP PARK STREET

THIS PHOTOGRAPH APPEARED in the local magazine *Bristol and the War* on the 1st May 1915. These caterpillar traction engines are on their way to Avonmouth for shipment to France. It is not easy to assess their weight but they are probably not more than 10 tons and could thus be handled by the 10-ton crane on the south side of the Royal Edward Dock where military motor sheds and other such transport storage had been established on land behind Sheds S, R and Q. There was thus apparently no need for the cumbersome procedure of shipping and unshipping transports in the Royal Edward Dry Dock, if not already fully occupied, in order that the 25-ton Dry Dock crane might lift these vehicles.

To return to the scene at fashionable Park Street we note that the fishmonger deems it advisable to hold his pony's head. Five caterpillars? My young grandson said: "But I can see six" and closer inspection shows he could be right. One pony and cart seems diverted off course by the noise and one cyclist attempts to ride the hill. The writer did this once—but only once. At the top of the hill we can barely see the twin towers of the Blind Asylum whose graceful range of Victorian buildings lay like a small Oxford or Cambridge college behind trim lawns. But in 1909 the neat hereditament with much land behind had passed to the growing University of Bristol and on or near the site of the two towers there now stands the great Oatley Tower of the University to adorn the upward view.

Salonika", dashed flagging hopes. For on the 18th April 1917 the Port and Transit Executive Committee wrote as follows to Ross-Johnson from the Haymarket, London:

> "With reference to the Caterpillars which are being shipped from Avonmouth to France or Salonika, I shall be obliged if you will make enquiries and report to me as to the points from which they are sent to Avonmouth, in particular I want to know what proportion of the Caterpillars came from America and the Ports at which this proportion is landed and the means by which they are sent forward to Avonmouth.
>
> If any of the Caterpillars are forwarded from manufacturing centres in this Country, I shall be glad to have particulars."

The reply was disappointing:

> "In reply to your letter of the 18th inst. regarding the transport of Caterpillars to France and Salonika, I understand that all the caterpillars received here come from U.S.A. via Liverpool, from which port they are railed to Avonmouth."

George Collins, the Traffic Manager at Avonmouth, who supplied Ross-Johnson with the information, wrote: "Will you please debolish the name of my informant." The genial George crossed out "debolish" and wrote above "not divulge". So was lost a new word and much information we would like to have. We will however divulge the informant—it was "the Colonel Commanding of the M.T." In Port records it seems to have been "Caterpillars, caterpillars" all the way.

Despite much time already spent, another look was taken at several military histories on the shelves of Bristol's Central Reference Library. *The Tanks*, Volume One, 1914–1939, appeared to be a well-indexed book but the index gave no indication of the shipment of tanks through Avonmouth. At page 65, however, it was found that although the men who were to take the tanks into action left for France from Southampton on the 13th August, the tanks were sent from Avonmouth. By the 15th September when forty tanks began to rumble towards positions behind the four miles of trenches from which the advance was planned, fifty tanks had been sent to France. Practice in the use of tanks took place in France from mid-August. These fifty tanks from Avonmouth would have been loaded into transports either within the Royal Edward Dry Dock or at the point on the dock quay to which the crane track had been extended immediately to the north of the entrance to the Dry Dock. Eleven transports of about two to three thousand tons gross were regularly making short overseas voyages from Avonmouth probably to France at that time. Four other transports, *Campanello*, *Turcoman*, *Ant Cassar* and *Unisinga*, also made calls early in August. Not all the fifty tanks would have been entrusted to any one ship although none of the transports arriving at Avonmouth in August 1916 was either sunk or molested on the outward voyage.

The Battle of the Somme, better described as the mutual massacre on the Somme, began on the 1st July 1916 and continued until autumn. On the 15th September 1916 the British threw into the battle the first forty of their new secret weapon, armoured vehicles mounted on caterpillars and known to us as "the Tank". It was ironic that whilst little evidence had been found in Port archives, my first enquiry of those I knew had been on the Somme, led a venerable warrior to tell me that he had been at Fleury early on that September morning when his battalion was one of many along a four-mile front detailed to follow in close support of that first assault of tanks in warfare. With a Somerset battalion he had also gone into action on the 1st July, the opening day of the Battle of the Somme. Our veteran found himself on the morning of the 15th September in the front-line trenches at Fleury whence the great assault was to be made. Some time before the assault the men in the trenches could hear the clanking approach of armoured vehicles the like of which they had never seen.

The forty tanks that approached for the assault on the 15th September were spread in varying numbers over a front of four miles. A heavy bombardment fell upon the German positions during the dull autumn night of the 14th–15th. The tanks went forward through the mist of early morning over ground damp from recent rains and pitted with shell holes. Not all negotiated their obstacles without failure. There were many allotted objectives along the four-mile front. The objective in front of the veteran's battalion was the village of Flers, 1,250 yards away. The troops tended to press behind the tanks for cover when and where the vehicles had successfully passed over the British trenches. Our veteran said he advised his men to keep at some distance as the Germans would attempt to shell the vehicles. This indeed happened with success here and there, but in some localities the German infantry were demoralised by the attacks of the unexpected arrivals. Flers was an objective successfully achieved by middle day by the battalions set to the task. The long street of Flers was another 1,250 yards in length and the tanks led cheering troops along it. At the end of the Battle of the Somme that autumn the British front line was no more than about one hundred yards beyond Flers. But on the 15th the taking of Flers was a victory, a local success amid a costly welter of those local successes and local failures that were the pattern of the Somme. On the immediate right of the affair at Flers the brigade of Guards ran into grievous trouble that day and paid a brutal price for trying to take Goudricourt. Some of the victors of Flers, our veteran among them, were sent to retrieve the day with a flank attack. Those who wish to know more may read in the book already quoted or in those volumes of the *Official History of the War* that tell of the Battle of the Somme. For we have followed that first August consignment of tanks to destination and now return to the Port.

XVI

1916:

False Calm

In the springtime of 1916 the surface of the Bristol Channel was unbroken by the rising periscopes of the enemy. This cessation of alarms was to continue for nearly twelve months from the sinking of the *Cottingham* south-west of Lundy on the 26th December 1915. That long pause may not seem of much more than local significance in a year that was to hold for the British the thunders of the Somme, the campaigns based on Egypt and Salonika and the advance of our troops into Mesopotamia. At sea the great naval event was the inconclusive Battle of Jutland in May 1916 when the German High Seas Fleet failed to break the Royal Navy's blockade of the North Sea. The pause in undersea attacks in the Bristol Channel only becomes significant when we remember that this arm of the sea led inward to the great coaling ports of South Wales as well as to the Port of Bristol and that the Bristol Channel, like the Irish Sea that gave access to the ports of Liverpool and Manchester, was part of the pattern of the South-west Approaches that stretched out into the Atlantic for some two hundred miles beyond the south of Ireland. Except for March and April 1916 when seventeen ships were sunk by German submarines in the Atlantic off southern Ireland, there was almost complete freedom from attack that year throughout the South-west Approaches through which our merchant ships had to be safely navigated to bring the vital flow of food and war materials from the United States and Canada into the strategic western ports of Liverpool and Bristol.

In May 1916 the Premier of Australia, the Right Honourable W. M. Hughes, paid a visit to the Avonmouth Docks. The visit was more than a ceremonial occasion. Prior to the war only about one-third of the nation's spelter, an alloy or solder obtained principally from zinc, was made in this country. The remainder came from German zinc smelters who had bought up the long-term output of the Broken Hill Mines of Australia. Upon the outbreak of war we had therefore to purchase spelter for munitions from the United States. Meanwhile the Australian Government had cancelled the contracts with the Germans and among the reasons for the Australian Premier's visit to this country was the desire to sell to Britain the essential industrial ores from the Broken Hill Mines. The British Government decided a zinc smelting plant should be established near a port in this country and after the inspection of several ports Avonmouth was selected for this project.

The new smelting works and the associated processes were designed to cover too large an area for any site upon the Port lands around the Royal Edward Dock. The Great Western line from Avonmouth to the Severn Tunnel lay only one thousand yards inland from the Severn shore at the Royal Edward entrance locks. North of the locks Port ownership extended along the Severn shore for 2,300 yards to where the wide and muddy Holesmouth Creek stretched inland for about a hundred yards. Across the head of Holesmouth Creek ran the Severn Tunnel line that thus hedged in the Royal Edward lands to a triangular shape. This triangle held no more than 240 acres and was mostly occupied by the water area of the Royal Edward Dock and by quays, sheds, warehouses, dock sidings and so forth. It was within this triangle that developments of any size at the Royal Edward Dock would have to be sited. One hundred yards landward of the Severn Tunnel line, St. Andrews Road headed north on a parallel coures towards Holesmouth Creek and there, one hundred yards from the head of the creek, consummated itself as a cul-de-sac. Eastward of St. Andrews Road, the level lands of Napier Miles stretched away to the foot of the distant escarpment and awaited development. The hour was at hand.

The smelting interests created the National Smelting Company Ltd. to build and manage the new works. The Company were not restricted in the size of their land purchases and consequently did not suffer from the visionless restrictions Parliament customarily imposed upon the amount of land that ports might acquire when they sought statutory powers to build or extend their docks. The Docks Committee were told when they sought power to build the Royal Edward Dock that they had already been granted much more land around their proposed dock works than was usual. The National Smelting Company purchased many hundreds of acres from the Miles Estate and their lands extended along by far the greater length of the St. Andrews Road frontage on the landward side up to the northern end opposite Holesmouth Creek. Indeed, and from their point of view wisely, the Company purchased a substantial holding of land abutting on the Severn Tunnel line immediately at the blind end of St. Andrews Road. Thus was accomplished the threefold sealing-in of the Royal Edward Dock on the landward side by railway, by road and by the smelting works.

The immediate problem within the Dock was where to berth the steamers that would bring bulk cargoes of ore and phosphate rock and after that how to convey those cargoes to the smelting works and to a Ministry of Munitions plant in the same vicinity. The Port Authority agreed to deepen a further portion of the Western Arm of the Royal Edward Dock that had already been developed for the valuable petroleum trade. Alongside this extra water space the Port also agreed to build a ferro-concrete wharf upon which the National Smelting Company were to erect a receiving station for the bulk imports. From this quayside plant there went an overhead ropeway along which ran conveyors taking most of the bulk imports over adjacent Dock land, over the Exchange Sidings, over the G.W.R. lines and over St. Andrews Road into the smelting and other installations. Some materials went there over dock roads by lorry and some went in dock trucks over a new dock line to the Exchange Sidings from which the Company took their own line past the north end of St. Andrews Road and then back along the landward side of the road over their purchased lands. All these difficult arrangements were negotiated under or under the imminence of Government wartime powers. Imports for the smelting plant were scheduled to begin early in 1918 but it was to be nearly ten years before the import of raw zinc concentrates and the export of roasted zinc concentrates began to have much significance in the trade of the Port.

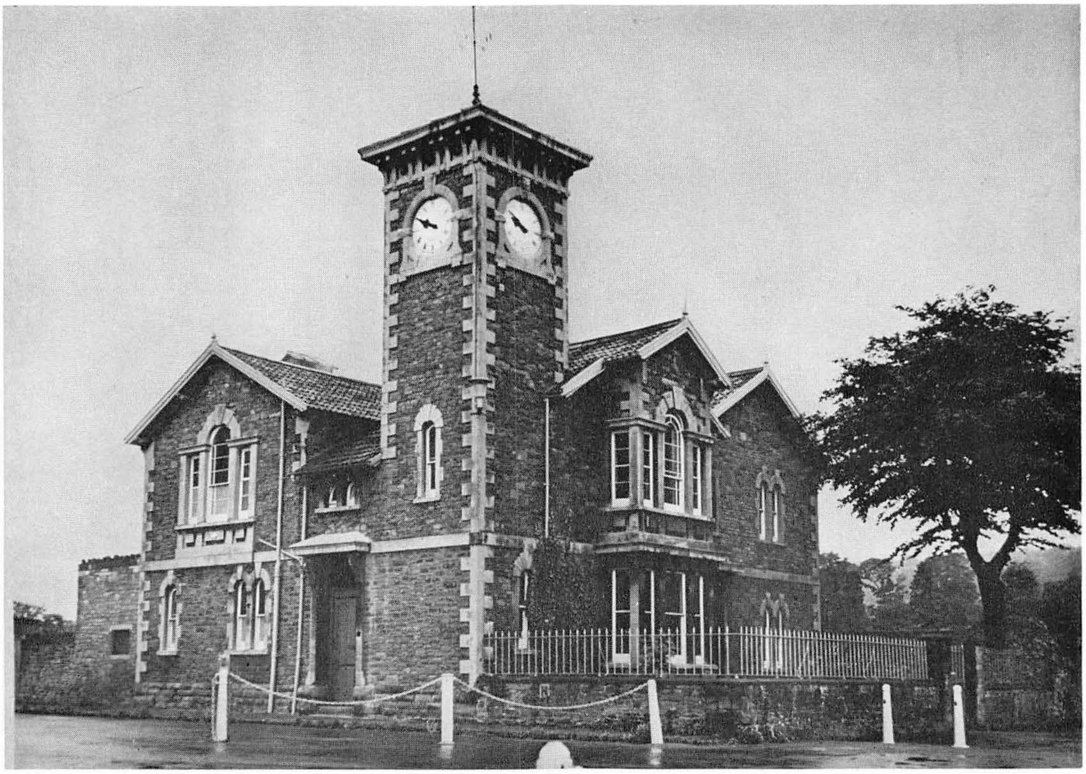
In May 1916 the Cunard Steamship Company took over the steamship interests of Canadian Northern Steamships for whom the *Royal Edward* and the *Royal George* had run the passenger and cargo services from the Port to Quebec and Montreal and in winter to Halifax, Nova Scotia when the Saint Lawrence River was closed by ice. The first ship on the Cunard service from Montreal was the *Ardgarroch*, 3,160 tons net, that arrived on the 9th June with 5,788 tons of grain, 1,038 tons of general cargo, 737 tons of timber, and after a speedy discharge sailed on Saturday the 17th with 500 tons of general cargo. The *Feltria*, 3,287 tons net, the *Flavia*, 5,843 tons net, and the *Folia*, 4,211 tons net, soon followed in voyages for the Cunard to Canada and the United States. These three ships had formerly belonged to the Uranium Steamship Company, a subsidiary of Canadian Northern Steamships, for the purpose of running a cheap emigrant service from Rotterdam to New York. The *Feltria* was the former *Uranium*, the *Flavia* was the former *Campanello* and the *Folia* was the renamed *Principello*. All three ships had come to Avonmouth for a while after the requisitioning of the *Royal Edward* and the *Royal George* in an endeavour by Canadian Northern Steamships to continue their Canadian trade.

The *Ceramic* that had entered the Royal Edward Lock in February 1915 to disembark 398 soldiers, arrived again on the 26th June 1916 but this time to enter within the enclosed dock itself with cargo from Montreal. This White Star liner of 18,481 tons gross, 655 feet in length, 69 feet in breadth with a hold 44 feet in depth now laden with cargo, was a different proposition from the comparatively lightly laden troopship of the year before. The Royal Edward Entrance Lock was more than adequate in length and breadth for a ship of her size. The *Ceramic* on this occasion drew 32 feet 6 inches. It was desirable that a ship of the size of the *Ceramic* should have about 4 feet of water under the lowest part of her keel. For this the Royal Edward Lock was also more than adequate since the masonry base at the inner and shallower end of the Lock was 38 feet below the normal water level of the enclosed dock within. Furthermore, up to within a short distance of the inner dock gates, the Royal Edward Lock was

44 feet below the normal dock level of the inner dock. Thus on any tide with a suitable depth of water as shown on the tidal gauge immediately outside the outer lockgates, the *Ceramic* with a draft of 32 feet 6 inches as on the 16th June could safely enter the Royal Edward Locks in the absence of gale and other inward and outward shipping commitments.

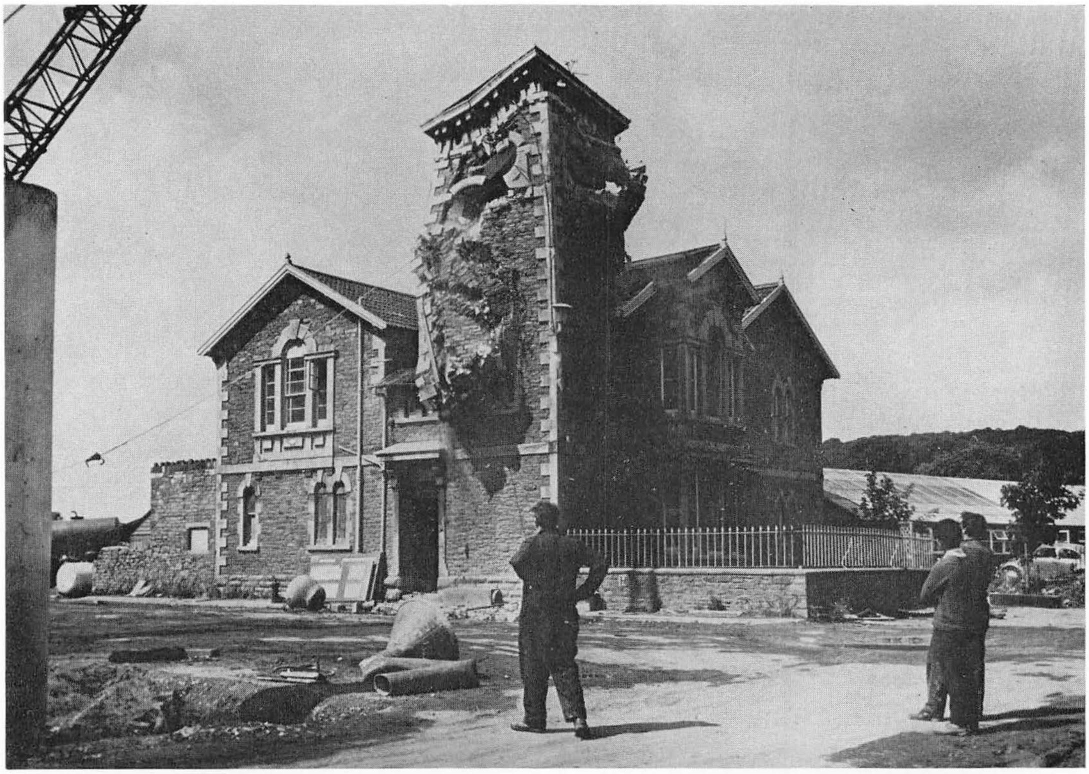
The difficulty arose within the Royal Edward Dock itself where up to that time it had only been necessary to dredge to a depth of 32 feet. On this occasion the problem was solved by pumping more water into the enclosed dock so as to raise the level by 4 feet. But a procedure of this kind causes considerable inconvenience to other users and in other directions, and on the 31st July 1916 the Docks Committee authorised the dredging of the dock to a depth of 36 feet. Now the port dredgers were already hard pressed to keep the docks down to their usual depth and it will be remembered that the new dredger to be called *Severn* had failed to arrive from Germany. Nevertheless, the port dredgers were to be employed as and when practicable to dredge the floor of the Royal Edward Dock down to a depth of 36 feet although it was understood that the minimum period in which the task could be accomplished was two years.

The decision whether or not a ship shall enter a lock or at what time rests with the dockmaster or the assistant dockmaster on duty at the lock on that tide. Accidents can happen in the best regulated family. It was so at the Cumberland Basin entrance some years later when a foreign steamer due to enter Avonmouth sailed instead up the River Avon upon a clear afternoon, Signal Stations or no Signal Stations, and being unable to turn in the river duly appeared in sight beneath the Suspension Bridge with a tide that was already on the ebb. Captain H. T. Holloway was the Dockmaster on duty at the Cumberland Basin entrance locks. Some little distance outside the locks there was the Hotwells landing stage against which a ship might moor and await the next tide, but not a ship the size of the stranger since the greenheart piles had at that time done duty for many years and the slope of rock beneath the mud had tended in the course of time to move riverwards. Urgent information telephoned from down river gave the ship's dimensions and entry was possible except that on the dropping tide as the ship entered the Cumberland Basin locks there would be no more than 1 foot 3 inches of water beneath her keel. Captain Holloway, master mariner trained in sail and steam, ordered the ship to enter on the view that the likelihood of a steamer stranded in or at the entrance locks was probably a lesser evil than a large steamer wrecked and lying on her side to block the river after taking most of the Hotwells berthing stage with her. As the steamer moved into the lock and the moment of crisis was at hand, there came an unpredictable tidal surge to carry the steamer through the locks to moor in Cumberland Basin. It is said that Napoleon required his staff officers to have not only skill and courage but also to be lucky in their decisions.



The Dockmaster's House, Cumberland Basin

For over one hundred years this elegant house with a beautiful walled garden was a landmark at the entrance to the Avon Gorge. It was visible to mariners entering or leaving the City Docks, to those who travelled by railway to or from Portishead, to those crossing Rownham Ferry who were bound to pass the house, to the people at Hotwells to whom the clock could be a timepiece by day or by night and to those looking down at the dock entrance from the heights around. The house was built in 1858 for £400. So far as I remember from my visits when my friend Captain H. T. Holloway was Dockmaster at the City Docks, there was nothing to indicate that the contract price of 1858 was for a nucleus to which later structural additions had been made. The house seemed quietly out of the flow of change even as it seemed above the height of the highest tide, but as the next photograph shows it was not so.



Demolition Day

It was the 15th July 1964 and the moment when the clock tower toppled. The contractor's huts were already up in the garden for the purpose of the Cumberland Basin road scheme with its bridge over the entrance locks and its road complex over a bridge at the inner eastern end of Cumberland Basin in order that road traffic might not be delayed when the entrance locks and the new Plimsoll bridge over it were open to shipping.

But at least the Cumberland Basin house lasted longer than the Dockmaster's House built near the Avonmouth Entrance Lock at some date after the 1864 Act authorising the construction of the Avonmouth Dock opened in 1877, for the Central Canteen of 1943 stands upon the land where once Avonmouth Dockmasters dwelt.

During the unloading of the *Ceramic* the grain pieceworkers claimed an addition to their rates of pay because the holds were so deep that it took longer for the sacks to be hoisted. There were many such claims at this time. Ernest Bevin had already done much to weld the various classes of labour around the docks into closer Union control. The various groups of dock employers soon began to find it inadvisable for each group to negotiate separately either for wage increases on account of the rising cost of living or for extra pay as in the unloading of the *Ceramic.* In the Spring of 1916, therefore, several trade associations at the Port decided, under the able chairmanship of Alderman Twiggs, Chairman of the Docks Committee, to set up the Employers' Labour Association of the Port of Bristol "for securing proper co-operation among the employers in dealing with questions of labour". The foundation members, each to have two representatives, were

The Bristol Docks Committee,
The Bristol Steam Ship Owners' Association,
The Bristol Grain Importers' Defence Association,
The Bristol Timber Importers' Association,
The Bristol Cartowners' and Warehouse Keepers' Association,
The Bristol Master Stevedores' Association,
The Bristol Tugowners' Committee,
The Bristol Bargeowners' Committee.

Histories are not only written for today but for "Tomorrow, and tomorrow, and tomorrow". The individual firms who belonged to the various trade associations that now formed the Port Employers' Association were named in the booklet *Objects and Rules* of the new Association. The lists are a little too long to be set out here. Many names were soon to fade into the gloom of time and as there may be those hereafter who would wish to know the extent of this nucleus of employers at the Port in 1916, we put the lists of their names in Table 4 of the Appendix. Alderman Twiggs was the Association's first Chairman and where better could the Association's offices then be than in Queen Square?

In the summer of 1916 Mark Whitwill, a member of the Docks Committee, was in controversy with Ross-Johnson on account of the admitted inadequacy of the Glasgow Shed on the Welsh Back to deal with the Glasgow and Belfast trade carried on there by Sloan's Glasgow Line. Whitwills were the Bristol agents for William Sloan & Co. Ross-Johnson had at that time no other transit shed to offer in place of the single-storey Glasgow Shed of 2,194 square yards. As we shall see, the problem was within less than a year to be bedevilled in a way to the liking of neither gentleman. Our interest here is in a scene typical then as before the war at all those transit sheds on the ancient City quays where no railway lines brought or took away cargo. Figures given in the controversy show that as a rule there berthed at the shed each week two of Sloan's steamers such as the *Findhorn*, 1,122 tons gross, 461 tons net, 242 feet long, 33 feet in breadth with a hold depth of 16 feet. Such a steamer would have in and out cargoes of about 900–1,000 tons in all and each cargo would generally be made up of 300–400 different consignments. Now the quay in front of the Glasgow Shed was no more than a yard wide so that all cargo was either loaded on or off the typical horse-drawn flat trolleys of the time through six wide sliding doors on the roadside of the shed. It is said that such waggons averaged a load of 2¼ tons which, from some experience, I consider too high a figure for consignments in a city by no means free of hills and slopes. We thus see that in the course of a working week of five and a half days some eight hundred to a thousand horse trolleys would come over the cobbles of the Welsh Back to haul cargo to or from this one shed. This daily assembly of loading, unloading or waiting waggons was common at all sheds around the three quays on the City peninsula, and even at the rail-connected sheds elsewhere in the City Docks the horse-drawn waggons flocked in for a substantial share of the trade. Little wonder that to citizens and children alike the daily scene ashore and afloat at the City Docks was one of bustle, confusion and unfailing interest. If nothing is free in this life, was not even one visit worth that tiny part of a householder's rate demand?

It was on the 2nd September 1916 that, as already recorded, the *Kelvinia* of 5,039 tons gross outward bound from Avonmouth struck a mine and sank nine miles south of Caldy Island off the coast of Pembroke. Thereafter the long pause in enemy activity within the Bristol Channel continued for a while. But about this time there was another peril within the Avonmouth Docks aboard a ship infected with bubonic plague, the Black Death of the Middle Ages. To discharge the cargo, men were paid an extra £5 a day and after work they went every day to Ham Green Isolation Hospital to be decontaminated. The burghers of Bristol in time of the ancient pestilence would not knowingly have gone aboard a ship with plague or touched her cargo. *Bristol and the Great War* reported in September that there were a few cases of bubonic in Bristol. Bubonic was transmitted to man by fleas from infected rats who were unwanted passengers aboard ship. Wide metal discs were fitted to the mooring ropes of ships from abroad to prevent rats, healthy or otherwise, from making their way ashore. Modern drugs have done much to abate a plague now rare in this country.

From the beginning of May 1916 to the end of November 335 ships entered the Port on war service. Of that number 288 were war transports that came in from overseas and took out mostly to France 201,000 tons of Army vehicles, war materials and stores. Only two of the outward-bound transports encountered an enemy submarine in those seven months. The unarmed transport *Palm Branch* of 3,891 tons gross arrived at Portishead for petrol on the 12th November and sailed after loading. On the 21st November a submarine opened fire on the steamer in the English Channel but the *Palm Branch* used her speed to escape.

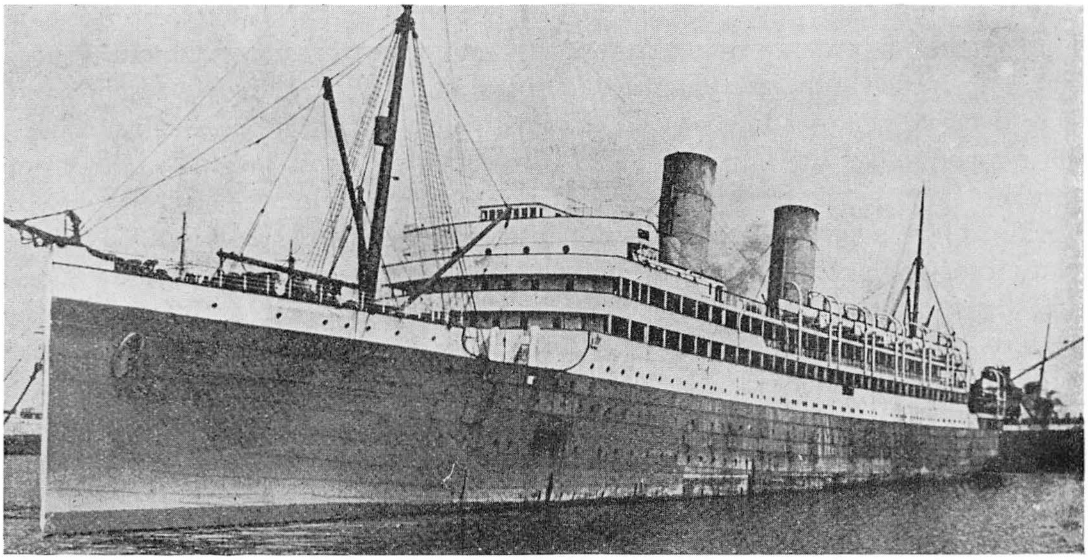
The transport *Huntscape* of 2,933 tons gross made twelve visits to the Port in the seven months we are considering. One arrival was made on the 14th November and the next on the 28th. In the meantime on the 26th November the *Huntscape* was also fired upon by a submarine in the English Channel but the *Huntscape* having been equipped with a gun returned fire and the action was broken off.

This slackening of submarine attack in the South-western Approaches from May to November 1916 not only allowed war transports to use the Avonmouth and Portishead Docks without loss, but enabled the Port's imports from overseas to be kept at a not unsatisfactory level, all things considered. In the seven peacetime months to the end of November 1913 commercial imports from overseas at the three docks of the Port came to 1,219,000 tons. In the similar periods of the next three years 1,102,000 tons of goods from overseas arrived in 1914, 1,078,000 tons in 1915 and 953,000 tons in those seven months of 1916. It was a gradual but not undue decline when one bears in mind the loss of ships by enemy action, the number of ships taken out of commerce for transport and naval duties, the need for limiting expenditure on unnecessary imports and, last but not least, the congestion at the crowded western ports. But we have yet to ask why the Germans for the first eleven months of 1916, apart from March and April, refrained from submarine attack on the Atlantic route by which came to Britain vital war material to an extent and of a kind unobtainable elsewhere than in the United States. Along that route there also came foodstuffs and commodities previously brought from more distant countries, the long voyages to which were now avoided where practicable in order to save shipping time.

To counter the German submarine campaign against merchant shipping in the seas around Britain, the Royal Navy early began to requisition many fast merchant ships of medium size and convert them into armed merchant cruisers to hunt the undersea enemy. Large numbers of smaller ships and fast craft were requisitioned or built and sent out to the flotillas searching for U-boats. These extensive patrols neither ended nor subdued the menace, but the Germans had their losses; experienced captains and crews were lost in an activity where skill and morale were of great value. Moreover, the Americans were becoming more and more frigid about German failure to comply with international law when merchant ships were torpedoed on sight and without warning. The policy of sight and sink struck neutral shipping and their crews as well as belligerents and the Atlantic route was one very much under American notice. Opinion in the German High Command and among Court advisers to the Kaiser was divided between whether total attack upon all merchant shipping approaching Britain would bring about success or whether it would bring the United States overwhelmingly into the war against Germany before victory could be won. For a long period during 1916, therefore, the Germans halted between two opinions. In the meantime they pressed ahead with the construction of many more submarines of improved type.

How often men in two minds on a matter of prime importance give themselves a respite from decision by turning to a lesser objective. In war there are usually other plausible objectives for such men to find. In the course of the Gallipoli campaign General Liman von Sanders had complained of the lack of naval help given to his defence of the Dardanelles. Indeed it was the 13th August 1915 before the first troopship heading that way was sunk by a German submarine. On that day six miles west of Kandeliusa, an island at the entrance to the Aegean, the *UB14* torpedoed the *Royal Edward* that had arrived at Avonmouth for the last time on the 21st July. It will be remembered that August 1915 was the most successful month for German submarines up to that time. Forty-two British merchant ships of 135,000 tons gross were lost. As usual in months of high loss there were heavy attacks in the South-western Approaches where in that month of August thirty-two British ships were sunk with nine merchant ships of other nationalities. America had an unpleasant reminder of the sinking of the *Lusitania* three months before, when on the 19th August 1915 the White Star liner *Arabic* of 15,801 tons gross bound from Liverpool to New York sank after being torpedoed without warning fifty miles from the Old Head of Kinsale. Forty-four lives were lost. In the following month of September 1915 when the losses of British shipping fell to 90,000 tons, the attack slackened in the South-west Approaches. On the 4th September the *Natal Transport* bound from Bombay to Britain with cargo was sunk off Crete and later that month five more British merchant ships were sunk by German submarines in the Mediterranean. In October 1915 no British merchant ship was attacked in the South-west Approaches but in the Mediterranean ten of our merchant ships, 39,000 tons gross, were sunk by submarines. From then on the Mediterranean campaign of the U-boats was steadily built up and continued throughout 1916. All this time, losses both from submarine attack and from mine took place in the English Channel and in the North Sea. During 1916 there were from time to time incursions by German submarines into the South-west Approaches with appreciable ship losses on such occasions, but the weight of submarine attack in the year 1916 lay for the most part in the Mediterranean.

The Americans were given an interesting demonstration of the range of a German submarine on the 8th October 1916 when three British merchantmen averaging 3,900 tons gross were sunk off the Nantucket Light Vessel. Whether it was worth going so far at that time to rap on a powerful neutral's door is a matter a diplomat might gravely doubt. Whether or not the diversion of German submarines to the Mediterranean was worth while with the consequent neglect in 1916 of the vital South-west Approaches is a matter to be considered in the light of later events. It is enough here to say that in 1916 no strategist had good



H.M. TRANSPORT *Royal Edward*

IN SEPTEMBER 1915 THIS PICTURE APPEARED in the magazine *Bristol and the War*. Where and when it was taken is not known. The magazine states the that *Royal Edward* sailed from Avonmouth on the 30th July 1915. The ship was sunk at the entrance to the Aegean Sea on the 13th August and with a top speed of 18½–19 knots, say 440 knots in 24 hours, the *Royal Edward* would have had time to call elsewhere, possibly Alexandria, before arrival in the Aegean on the 13th August.

It is said in *Bristol and the War* that the transport carried 1,350 reinforcements for the 29th Division at the Dardanelles with 32 officers and the ship's crew of 220 officers and men. In the Port publication *Tideway* the caption to a photograph illustrating an article on the Royal Line by Commander C. R. V. Gibbs, R.N. (Retd.), stated that 1,200 persons were aboard. The text of the article states that the ship sank with a loss of 935 lives including over 860 troops. In an Admiralty Return of the 14th August 1919 on Merchant Shipping Losses, the number of civilian lives lost is given as 132, including the Master, but this figure would include any civilians as well as the crew. The Admiralty Return included no figures for losses of military or naval personnel. Most of the crew for the voyage were signed on at Bristol and many local families were bereaved.

reason to think the war could be won or lost that year in the Mediterranean. The Gallipoli adventure ended on the 7th January 1916 and neither in northern Italy nor in the campaigns based on Salonika and on Egypt nor in Mesopotamia were decisive victories likely to be gained by either side. It was in France that the two opposing sides leaned their massive power most heavily against one another. Perhaps the Germans hoped too much for the collapse of the French at Verdun to be aware that even in this interminable war, time could be ebbing away from them on the Atlantic; nor perhaps were the Germans aware enough that their economic power was already silently ebbing at a time when the western ports of Britain, that supply arsenal of the allies, could be approached from the Atlantic with far less loss and harassment than had been feared.

The year 1916 was not to end without any attack by German submarine within the waters of the Bristol Channel. On the 1st December the fishing smacks *E.L.G.* of 25 tons gross and the *T. and A.C.* 23 tons gross were captured and sunk by bombs twenty-five and twenty miles north-west, respectively, of Trevose Head on the north coast of Cornwall. On the 23rd December two submarine attacks failed down Channel. The *William Middleton*, 2,543 tons gross, was captured but rescued; the *Bertrand*, 3,613 tons gross, was attacked by gunfire but also rescued. Neither of these ships was armed. Next day the *Paul Paix*, 4,196 tons gross, that carried a gun, struck a mine but was towed into port. On the first day after Christmas the sailing vessel *St. Agnes* of Gloucester, 99 tons gross, built in Devon at Kingsbridge in 1901, was captured and sunk by bombs fifteen miles south-west of St. Anns Head in Pembroke on the north coast of the Bristol Channel. Not a seaman's life was lost in these incidents.

For twenty-nine days in January the calm of 1916 in the Bristol Channel continued into 1917. Then on the 30th January a submarine attack took place twenty to thirty-four miles north of Trevose Head. Six unarmed fishing smacks of between 40 and 60 tons net, the *Wetherill*, *Merit*, *W.A.H.*, *Helena and Samuel*, *Trevone* and *Euonymous*, were captured and sunk by gunfire. This was a frequent happening to fishing vessels in the North Sea. Aboard the *Trevone* two men including the skipper lost their lives. These events of December 1916 and January 1917 in the Bristol Channel were however but a strumming by one or two musicians who turned up before the general arrival of the orchestra. By mid-January German submarines were beginning to seep back farther out in the South-western Approaches, and at the mouth of the Bristol Channel on the last day of January the *Dundee*, an armed merchantman of 2,278 tons gross, was torpedoed without warning and with the loss of one life ten miles north of the small fishing port of St. Ives in Cornwall.

By January 1917 the British blockade and all those financial pressures which we earlier termed the golden key to victory, were beginning to restrict German production and weaken the will of the German people. In the submarine campaign lay the German hope of victory. Admiral Jameson states at page 200 of *The Most Formidable Thing* that by December 1916 there were 85 German submarines engaged in the campaign against our merchant shipping. Of this number, 38 submarines had German bases, 25 worked out from Flanders ports and 22 were in the Mediterranean. In February 1917 Germany at last decided to let loose her U-boats in unrestricted warfare upon all merchant shipping approaching these islands and particularly upon shipping bringing essential supplies along the sea routes from North America. With the United States hardening her attitude to such indiscriminate sinkings it was a gambler's throw but gamblers do not always lose. The overseas shipping strength of the country at this time lay in steamers of 1,600 tons gross and upwards. At the beginning of January 1917 Britain had available for the purposes of war and trade such steamers to the extent of about sixteen million gross tons. Probably one-third of this steamer tonnage was engaged in war service and another one-fifth was helping to meet the essential import needs of our allies. Thus less than eight million tons of our overseas steamers were now available for our own trade imports and that would be less than half the tonnage of British steamers so employed before the war.

XVII

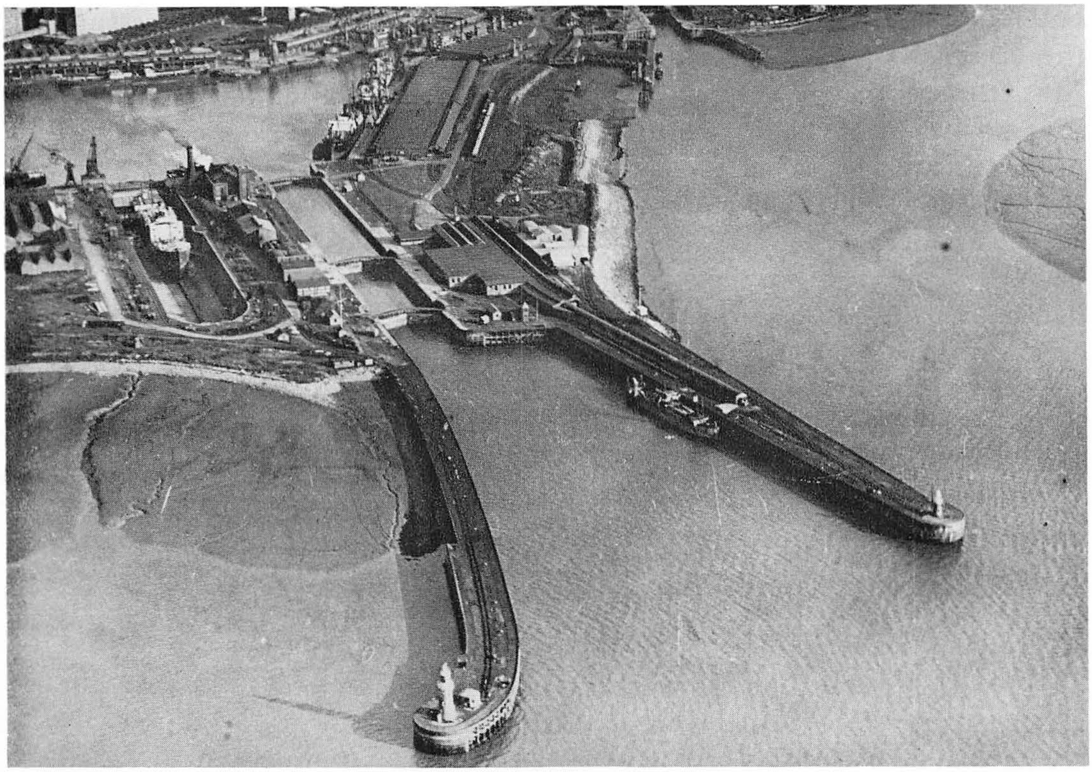
1917:
Peril at Sea

If as we enter upon this time of peril we bear in mind that no more than eight million tons gross of our overseas steamers were now available for the essential imports of these islands, we shall be the better able to feel the impact of the nation's loss of shipping and perhaps foresee how the trade of the Port would fare.

In January 1917 German submarines sank 35 of our merchant steamers at 110,000 tons gross while the commerce raiders *Möwe* and *Seeadler* captured and sank by bomb or gun 5 ships of 19,000 tons and mines put down another 8 ships of 24,000 tons gross. The January loss of 48 merchant ships of 153,000 tons gross and of 276 seamen was grievous but even so the loss was less than in either of the three previous months. At no more than the January rate of loss there would be an annual loss of about 1,800,000 tons gross of British merchant shipping which was not likely to be replaced by more than about 750,000 tons gross of steamers built in our shipyards or bought from overseas. Nevertheless, the loss of a million tons a year of our merchant shipping could give the Allies another three or even four years in which either to win the war or watch Germany collapse from trade blockade.

But our neat calculation in tonnage loss and time, like most wartime sums, proves false. For the purpose of her unrestricted onslaught Germany poised about fifty submarines on German bases and thirty or more on the sea outlets from Flanders and by the end of 1917 the Germans planned to have built another eighty ocean-going submarines of greater striking force. In February when the unrestrained attack began 86 British merchant ships of 256,000 tons were sunk by submarines, in March 103 ships of 284,000 tons and in April there came the appalling loss of 155 ships of 516,000 tons gross. In those three terrible months of February, March and April the nation had lost through all kinds of enemy action on and under the sea a total of 391 merchant ships of 1,212,000 tons gross and with the ships were lost 2,226 lives. We hardly need to be sent back to our sums again to see the deadly peril of a rate of shipping loss at five million tons a year made good perhaps by a million tons in replacement.

Early in February 1917, according to Admiral Jameson, eleven German submarines were in the Bay of Biscay and the South-west Approaches, nine in the English Channel and the Irish Sea and eight in the North Sea. During April 1917 it was in the Western Approaches off the south coast of Ireland and stretching



THE ROYAL EDWARD ENTRANCE LOCK

THIS VIEW IS TAKEN on a north-westerly approach. The lock, 875 feet long and 100 feet wide, was opened in 1908 when Alderman Sir William Howell Davies was Chairman of the Docks Committee. It was Sir William who led the vanguard of support for the new Dock in the early years of this century after the long hesitations of the City Council in the nineteenth century. In his advocacy of the increase from the lesser size of the projected lock to its present dimensions he was aided by the foresight of the then General Manager, F. B. Girdlestone.

To the north of the lock is the Royal Edward Graving Dock with dimensions to match and a depth of 32 feet of water on the sill guarded by a movable caisson. In the forefront of the picture is the North Pier and to the right is the South Pier with attendant lighthouses.

From the top right-hand corner the Avon saunters through alluvial banks of mud to merge with the Severn. The projecting bank of mud is the north-west corner of Somerset and of the Portbury Marshes. How did such an unheroic bulge come to be called Nelson Point? Right against the top border the 1877 entrance to Avonmouth Dock seems to be lying in wait. With a length of 488 feet and a width of 70 feet it has a depth of high water on the sill at ordinary spring tides of 38 feet and at ordinary neaps of 28 feet against the 46 feet and 36 feet at Royal Edward at such theoretical times.

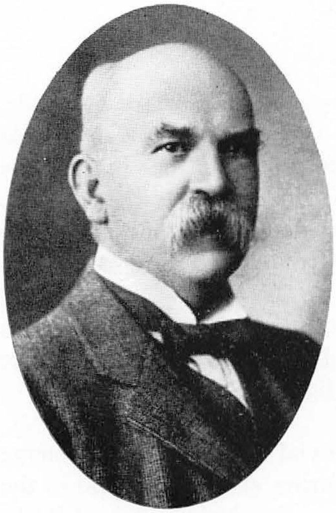
out into the Atlantic from Fastnet on the south-west corner of Ireland that the brunt of the submarine attack fell. This was the route that ships in the North American trade normally took to and from the vital wartime ports of Liverpool and Bristol. It was upon the United States and upon Canada that Britain had relied throughout the war years for the bulk of her imports to sustain both the home population and the war effort and it was in the Western Approaches about one hundred miles west of Ireland that the German High Command made their greatest onslaught by concentrating twenty-four submarines during that month of April. Admiral Jameson records that 136 British, Allied and neutral ships were there destroyed in those thirty desperate days. Of the 136 ships lost, 99 were homeward-bound and most would be carrying essential cargoes since imports were being ruthlessly trimmed to grim necessity.

At this time let us walk out to that invigorating spot the lighthouse at the end of the south pier at the Royal Edward entrance and gaze down the Bristol Channel. It is here the Severn encounters the Atlantic. Of Sabrina, river goddess of the Severn, it is written with broad truth

"Let soft Sabrina down the Severn blow
In summer 'twill be dry, in winter snow.
But from the west let blustering Neptune roar
And Bristol men were safer housed ashore."

We have not come to this vantage point in these disastrous months of February, March and April to gauge the weather, but with the mind's eye to gaze over the waters of the Channel around and beyond Lundy between the coasts of England and of Wales. With the Germans having at last brought about such a successful concentration of undersea boats in the far South-western Approaches, the intrusion of German submarines into the Bristol Channel in those three months was to be expected.

On the 1st February 1917 after the steamer *Dundee* had been sunk the day before off St. Ives, the small steamer *Essonite* of 589 tons gross was torpedoed three miles off Trevose Head and the fishing smack *Inverlyon* was captured and sunk by gunfire twelve miles farther out to sea. In the same locality the fishing smack *Brissons* was captured on the 12th February and sunk by bomb. The 13th February saw an important escape; the oil tanker *Sequoya* of 5,263 tons gross fought off a submarine gun for gun when outward bound from Portishead where she had entered on the 9th with oil from Borneo for the Shell



Alderman Sir William Howell Davies, M.P.
Docks member, 1887–1931;
Chairman, 1900–1908;
Mayor of Bristol, 1895–1896.

installation. The *Sequoya* was torpedoed in the English Channel on the 23rd March but reached port, was repaired and was not again attacked. *The Princess*, 623 tons gross, escaped from a gunfight in the Bristol Channel on the 16th February and so did the Clyde Shipping Company's *Sheerness*, 1,274 tons gross, but the unarmed *Queenswood* of 2,701 tons gross was caught that day and sunk by gunfire six miles south-west of Hartland Point, that great bastion of North Devon. The armed 1892 *Hooton*, 1,892 tons gross, also escaped in a gunfire exchange on the 25th February when chased by a submarine. Of the eight ships attacked in the Bristol Channel during February only the *Essonite* was attacked by torpedo.

In March 1917 two unarmed coasters were reported to be missing in the Bristol Channel and presumed to be torpedoed without warning. On the 11th the Clyde Shipping Company's *Eddystone* of 853 tons gross, a coaster, fought off an attacking submarine by gunfire. It was on that day that the *G.A. Savage* of 357 tons gross is considered to have been torpedoed without warning with the loss of nine crew including the Master. A similar fate is considered to have overtaken the *Braefield* of 427 tons gross on the last day of the month when six crew including the Master were lost. Meanwhile on the 11th March, the same day as the attack on the coaster *Eddystone*, the fishing smack *Thrift* was attacked by submarine and sunk by gunfire fifteen miles west of Trevose Head. Worse was to follow next day within ten to twenty-five miles off Trevose. The heaviest loss of the war to befall fishing vessels in the Bristol Channel then took place. Ten fishing smacks of from 12 to 61 tons were captured by submarine and sunk by putting bombs aboard. The lost vessels were the *Inter-nos*, the *Rivina*, *Lent Lily*, *Gracia*, *Nellie*, *C.A.S.*, *Jessamine*, *Hyacinth*, *Ena* and the *Provero*. No fisherman lost his life in those events, but the loss of boats so much a part of the daily lives of the fishermen and their families and so familiar to their little communities must have been grievous indeed.

While the thunderous losses of our merchant ships was happening far out upon the South-western Approaches during April 1917, the silence of the Bristol Channel was unbroken by the rolling sound of gunfire or torpedo on all but three days. On the 18th the *Nigaristan* of 4,345 tons gross fought off a submarine in an exchange of gunfire and so on the 23rd did the steamer *Nephrite* of 673 tons gross. The same day the former German sailing vessel *Tommi*, a 1900 steel schooner of 138 tons gross, was captured off St. Ives but was later towed in after an attempt to sink her by gunfire. The sole success within the

Francis Brooke Girdlestone
Secretary, 1875–1911;
General Manager, 1884–1911.

Channel that month was the sinking on the 24th of the unarmed *Plutus* of 1,189 tons gross by torpedo without warning nine miles north-west of Trevose Head.

With the last day of April the Port's trading year came to a close. We have more urgent work to do than count the money received and spent during a year when the nation lost 2,226,000 tons gross of merchant shipping from all kinds of enemy action and only built or bought 777,000 tons gross, a final loss of nearly one and a half million tons of our shipping. It was only to be expected therefore that in the Port year to the end of April 1917 there would be a serious decline in both commercial ships and cargo coming into the Port. As for all Port years from 1914 to 1919 the figures are shown in Table No. 1 of the Appendix. We here keep to the main facts. From overseas only 585 ships of 1,120,000 tons net brought in 1,485,000 tons of cargo during the year to the 30th April 1917. Each Port year had thus far seen a decline since 1914 when 978 ships of 1,568,000 tons net had brought in 1,839,000 tons from overseas. It was also a substantial decline from the previous Port year when 691 ships of 1,262,000 tons net had brought in 1,752,000 tons of cargo.

Let us consider for a moment one or two things that the Port, and therefore most of us, went without as compared with the piping times of peace that seemed so long ago. At 731,000 tons the overseas grain that came into the three docks in the Port year to the 30th April 1917 was less by 180,000 tons than in the Port year 1914 and yet grain coming into Avonmouth was up to a record of 545,000 tons against 508,000 tons in 1914. Alas for Proctor Baker's City Docks where the 1917 grain imports fell to 72,000 tons from the 304,000 tons of 1914 when laden barges from Avonmouth lay double-banked alongside his proud granaries. The gap was met by growing more English grain and by milling grain so that more flour but of a lower quality was extracted from every ton of wheat. This resulted in there being less residue known as "offals of grain" in the form of bran, middlings and sharps to feed the country's animals. The strange legend "Eat less Bread" began to appear in public places but if animals could only have read, then "Eat less Bran" might have been a farmyard slogan. As a matter of fact, the Port's import of wheat kept up very well in the year to April 1917 since 395,000 tons came in against a high figure of 422,000 tons in 1914. It was foreign barley fed as barley meal to both beast and bird that took the shock at only 102,000 tons against 228,000 tons in 1914. Flour, meal, rice and offals of grain from overseas gave little help at 23,000 tons about half the Port's import pre-war. What a time it would have been for those who nowadays slim and usually look more miserable thereby! It was however hard days for "Pharoah's lean kine".

Sugar was also scarce at 50,000 tons against the 89,000 tons that mostly came refined from Germany in 1914. The sugar ration made this bitterly clear. Strange sticky concoctions began to pose as sweets and confectionery in the shops. Timber from abroad dropped to 114,000 loads of a ton against 173,000 loads in the 1914 Port year. Bacon, butter, cheese and lard at 45,000 tons mostly from North America was 10,000 tons more than in 1914, bananas at a million and a half stems was about half the 1914 intake. Oranges were mercifully the same as in 1914 at about a quarter of a million cases. Civilians in the region did not receive increased meat rations since although 4,000 tons more frozen meat came into Avonmouth stores than the 8,700 tons of 1914, the Army had a first and heavy call on Avonmouth supplies. It was no untruth for a townsman to say that country life and country friends had distinct advantages in April 1917.

The business of the little ships along our coasts also declined at the Port. Their 5,229 arrivals and their total tonnage of 646,000 tons were more than one-third less than in 1914 and so was the 712,000 tons of cargo the coasters brought in and the 314,000 tons they took out in the 1917 Port year. Each wartime year had seen a continuous decline in their trade. The arrivals of the lowing herds of Irish cattle gradually declined from 58,260 beasts in 1914 to 9,639 in the Port year 1917 when only 4,343 sheep and 3,403 pigs arrived from Ireland. War transports at Avonmouth and to a much lesser degree at Portishead nearly equalled the number and tonnage of commercial shipping from overseas, but the 561 transports of 1,065,000 tons net in the year to the 30th April, 1917 fell far short of the tonnage of 1,788,000 tons net for the 669 transports that came in the year before. The war traffic they carried was rather more than the year before since while the 91,000 tons brought in was less by 56,000 tons, the 398,000 tons taken out was by 84,000 tons the more. The overall scene then was one of decline from the year before. The number of ships of all classes that came in was about one thousand less than the year before. The net tonnage of all those ships was about one million tons less and the goods that went in and out of the port weighed over four hundred thousand tons less than in the previous year. How far this state of affairs would in some measure have been redressed by such ships bound for Avonmouth as were sunk by the submarine onslaught in the Western Approaches during those months of February, March and April 1917 we shall never know. It is not wise to do speculative sums about hypothetical Port traffic. We could of course confidently predict that the imports from overseas during the three terrible months of February, March and April 1917 would be far less than for the same three months of 1916. But we should be wrong. In fact 301,000 tons of cargo came in from overseas in those three months of 1917 and that was only 14,000 tons or three useful cargoes less than in the corresponding three months of 1916.

There is much public interest at the present time in a revival of the use of our inland waterways, though mostly for amenity purposes. In March 1917 five motor barges, the property of the Inland Water Transport Royal Engineer, journeyed entirely by water from Chertsey on the Thames to Barry on the Welsh side of the Bristol Channel. The barges went from near London to Reading along the River Thames and from Reading through the Kennet and Avon Canal, the River Avon, the Feeder Canal, the Floating Harbour and then out into the lower reaches of the River Avon to arrive at Avonmouth. From Avonmouth they crossed the Bristol Channel to reach the coaling port of Barry. The barges drew approximately 2 feet 6 inches of water and the journey took seven days. Other such voyages were in contemplation and the voyage made was exceptional enough to be brought to the notice of the Docks Committee. It is to matters of deeper draught that our next chapter returns.

XVIII

1917:
Convoys

On the 6th April 1917 what the Germans had feared happened. The United States of America declared war on Germany. The American merchant fleet was by comparison with the British of no more than moderate size. Those German ships interned in American ports might now after extensive repair or refitting become available for the common cause. Even so if the destruction of Britain's merchant fleet continued at the April rate of over half a million tons a month there was little the United States could do in time to stave off disaster for her European allies. In the immediate context of the war in April 1917 perhaps the most significant event in that month of vast event was the unusual course taken by David Lloyd George, Prime Minister since December 1916, in going on the last day of April 1917 to the Admiralty to take the chair at a meeting of the Board.

Grim necessity made it imperative that measures should quickly be found to thwart the successes of German submarines. For some while there had been those who advocated merchant shipping being shepherded in convoys through hazardous areas by naval escort. There were obvious objections—delays to shipping at assembly points, the delay of faster ships to the speed of the slower ships in a convoy, the difficulty of merchant ships in keeping station, the delay and congestion in port when a large convoy arrived, the shortage of swift naval escort craft, the large target offered by convoys and so on. Senior naval officers and also mercantile officers were opposed to the convoy system but had in the black springtime of 1917 little to offer in new methods of attack or defence. Depth charges began to come into use in 1916 but at that stage of development were more alarming to submarines than effective. "Asdic", the system of transmitting and receiving back supersonic sound waves from the submerged hulls, was the subject of later experiment but would come too late for much operational use. Germany had lost forty-seven submarines from all causes by the end of 1916 and lost two more in January, four in February, four in March and two in April 1917; but Germany reckoned to commission faster and larger submarines at the rate of seven a month during 1917.

Lloyd George had by April 1917 made up his mind that there must be radical attempts to end or reduce the very real risk of the war being lost at sea. It would appear that the Admiralty, where Lord Jellicoe had become First Sea Lord in

December 1916, was by late April slowly coming to the view that the convoy system should to some extent be tried. This was not good enough for the dynamic Lloyd George who, after giving notice on the 25th April of his intent, went to the Admiralty on the 30th April 1917 to take the chair at a meeting of the Board to ensure that the convoy system was rapidly adopted. It may be that Lloyd George was only pushing open a slowly opening door, but it was his energy and resolve that speeded up the use of protected convoys. Even so it was autumn before the convoy system tentatively begun in June and July could be used on the vital North Atlantic route to an extent that would enable the result of the system to be judged.

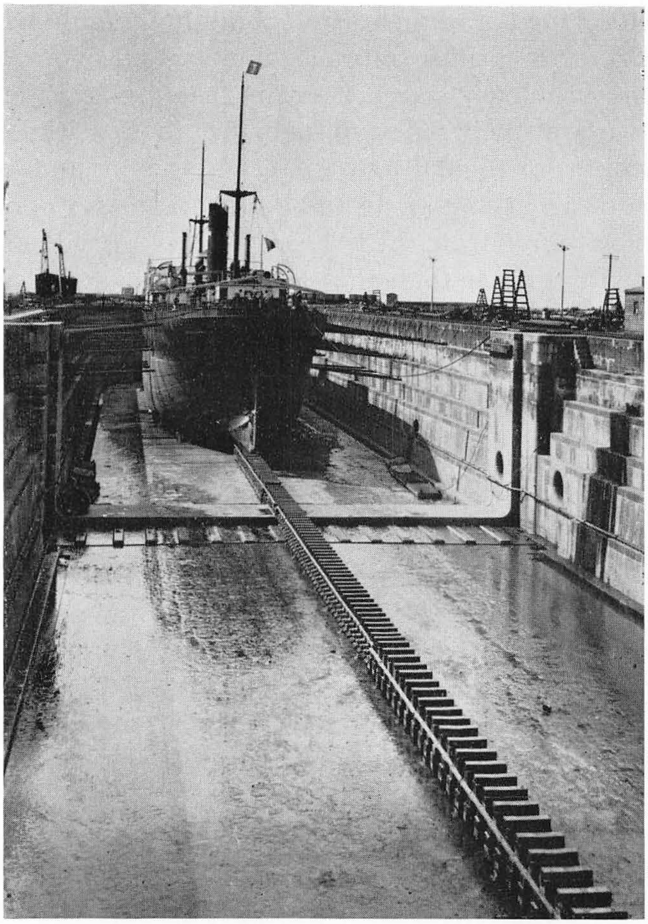
In the meantime our ship losses from submarine attack continued at a rate that whilst far less than the disastrous loss of 155 ships of 516,394 tons gross in April 1917 was nevertheless almost equally far above the losses for any month before the unrestricted submarine campaign began in February. In May 106 British ships of 320,572 tons gross were sunk by submarines and in June another 161 ships of 391,004 tons gross. Moreover, in June 688,000 tons gross of world shipping was sunk and about three-fifths of this loss took place in the South-west Approaches to these islands. In May seven German submarines were lost but in June such losses reverted to the usual monthly average of two. Our ship losses went on at undue rate throughout July when 88 British merchant ships of 320,000 tons were lost, in exchange however for seven more German submarines.

The heavy losses of British shipping by submarine warfare prepare us for the decline in the nation's maritime trade. During the year to the 31st July 1917 the tonnage of shipping entering the ports of the kingdom with cargo from overseas was down to 26,491,000 tons net, a loss of 16 per cent on the year before, and inward trade cargoes aboard those ships was 12 per cent down at 40,875,000 tons. The entry of coastal ships only added up to 20,951,000 tons net and showed a decline of 12 per cent over the coaster tonnage of the previous year. As we have already seen, the trade of the Port reflected such declines in the twelve months up to the 30th April 1917. Commercial shipping from abroad showed a net tonnage loss of 12 per cent, the overseas import loss was 15 per cent while the net tonnage of coaster entries also fell by 15 per cent and their cargoes in and out were down by 17 per cent. The Port was now receiving 4·2 per cent of the tonnage of the country's inward commercial shipping and 3·6 per cent of the commercial cargoes brought thereby from overseas. The tonnage of the Port's share of coastal shipping was 3·1 per cent.

By the end of July 1917 the gross tonnage of steamers of over 1,600 tons gross devoted to trade imports and exports had been pared by another million tons. Carriage by sea for war purposes was paramount and the essential seaborne needs of France and Italy had to be made up by our mercantile marine if the collapse of our allies was to be avoided. By now the Ministry of Shipping and the Admiralty had built up a wide range of branches and committees upon which many of the most experienced men in British shipping, finance and commerce served. Both shipping and shore problems were necessarily firmly under the control of these committees and without their skill and ingenuity the maritime requirements of neither the war effort nor the daily sustenance of these islands and of her continental allies could have been met. In those desperate days upon the sea all but necessities had to be barred from the holds of inward merchant ships. More than that, bulk commodities other than those of prime necessity had also to be left overseas. Timber, paper pulp, much fruit, the less meaty parts of beef and mutton, barley and maize and even wheat where it could be replaced by flour, all these suffered substantial diminution.

With such submarine activity out upon the far high seas the Bristol Channel continued to be almost free of menace. The three months from the 1st May 1917 opened briskly on the 2nd May when the former German steamer *Warnow*, of 1,593 tons gross and unarmed, was torpedoed without warning six miles west of Trevose Head with the loss of the Master and thirteen crew. On the same day the armed *Gorsemore* of 3,079 tons gross escaped when missed by a torpedo, and so on the 25th June did the armed *Lackenby* of 2,108 tons gross. On the 8th May the *San Patricio*, an oil tanker of 9,712 tons gross inward bound for Avonmouth from Tampico, was torpedoed but arrived at the Port on the following day. We gain some idea of the congestion that these war-damaged steamers caused throughout the repair yards of the kingdom when we learn that the *San Patricio* was under repair in the Royal Edward Dry Dock from the 22nd May to the 21st August. The only other incident of note in the Bristol Channel was on the 21st July when the *Ceramic* of 18,481 tons gross was chased by a submarine but rescued by surface craft.

Six days after the undocking of the *San Patricio*, the armed merchant cruiser *Barranca*, 4,124 tons gross, 372 feet in length and formerly in Elders and Fyffes' service from Avonmouth, entered the Dry Dock after arriving at Avonmouth "under sealed orders" on the 3rd July. For what damage or for what purpose the *Barranca* remained there until the 12th January 1918 is not known. The Cunard *Ausonia*, 8,153 tons gross, also entered the Dry Dock on the 27th August and remained there eleven days longer than the *Barranca*. The armed *Ausonia* had been torpedoed off South Ireland on the 11th June 1917, a disastrous day on which six British merchant ships were sunk and seventeen attacked but not sunk. Five of the attacked ships were torpedoed or mined but on reaching port they no doubt put further strain on overburdened repair yards. The damaged *Ausonia* did not reach Avonmouth on her voyage from Montreal until the 6th July 1917. To repair her was almost labour lost. On the 28th March 1918 she arrived at the Port from Halifax under the command of Captain Capper; on the 14th April she was missed by torpedo in the Atlantic, but on the 30th May the ship that



Royal Edward Graving Dock

This dry dock has a total length of 875 feet and a length of 850 feet over the keel blocks upon which the steamer at the far end rests.

A dry dock is so called because after it has been flooded to allow a ship to be brought in, the entrance gates are closed and then the dry dock is either pumped dry or allowed to drain dry if there is a pipe that can discharge to some lower level. At the Royal Edward Graving Dock there is a movable caisson, a large and narrow steel tank, that slides to and fro into a recess in the dry dock wall so as to open or seal the 100-foot entrance.

The term "graving dock" only describes one of the lesser operations within a dry dock. "Graving" is the cleaning of a ship's bottom by scraping or burning and coating with tar or some modern compound. In former times graving was often done by careening, that is, by causing a ship to heel over to one side. If done at anchorage by movement of ballast, etc. some hazard could arise.

three years before had taken the Dublin and the Munster Fusiliers from the Royal Edward Dock towards Gallipoli was torpedoed 620 miles west of Fastnet without warning and with the loss of forty-four lives.

Ross-Johnson had good reason for reminding the Port and Transit Executive Committee in London that there was only one Graving Dock at the Port that could receive for repair vessels of the larger size trading to Avonmouth. He pointed out that the Royal Edward Dry Dock should be available for the rapid repair and turn-round of such traders as required only short use of the Dry Dock for necessary but minor repairs. As usual Ross-Johnson had statistics for ammunition. In the calendar year 1915 the Dry Dock had been used by 68 ships and in 1916 by 87 ships. In the first three months of 1917 the Dry Dock was used by 20 ships and by 5 Government lighters but during the last nine months of 1917 only 6 ships had gone in for repairs. Ross-Johnson asked that extensive repairs might in future be carried out at other ports in the Bristol Channel where several graving docks were available. The Port Executive Committee replied they had advised their District Superintendent accordingly, but, wrote their Secretary, "I am sure you will quite appreciate that in view of the abnormal amount of damages caused through Enemy Action, the call upon the dry dock accommodation of the Country has been increased enormously".

Within the three months from May to July 1917 the tonnage of ships arriving at the Port with cargo from overseas began to fall away from the level of similar months the year before. In those three months of 1917 the tonnage of cargo ships from overseas was only 250,000 tons net which was 59,000 tons less than the year before while their cargoes of 365,000 tons were 64,000 tons the less. At least it would seem that here was an opportunity for the Port to clear arrears of orders for goods awaiting delivery. Even so it was for a few weeks. Thus during most of May, June and July unexecuted orders for the delivery of grain from Avonmouth were usually for no more than a thousand to two thousand tons of grain. But what of all the grain in sheds and granaries for which the Port had received no orders? Therein came the rub.

In the ten weeks up to the 4th August 1917 there had come into Avonmouth and Portishead twenty-two grain ships with cargoes averaging 5,900 tons apiece. These grain cargoes were brought through the efforts of the Royal Commission on Wheat Supplies set up in October 1916 to ensure that there were adequate stocks in this country. Of the twenty-two grain ships ten came from the United States in the two months of June and July during which time the City Line's *Boston City*, *Bristol City*, *Chicago City*, *Kansas City* and *Wells City* had each safely made the perilous crossing from New York and entered the City Docks in the course of their accustomed voyages. Seven of the grain ships at Avonmouth and Portishead came from Montreal and four from the grain ports of South America. At the beginning of 1918 according to Fayle 2,500,000 tons of Australian wheat purchased during 1917 remained unshipped since already British ships could not be spared for the long voyage at a time when such shipping was concentrated on North America for such purchases as could be made there rather than from more distant countries. At a meeting on the 27th June 1917 the Wheat Commission asked a Port deputation how much space there was for grain storage at the three docks. The answer was 44,000 tons at Avonmouth, 26,000 tons at Portishead and 19,000 tons at the City Docks. This figure of 89,000 tons had however been exceeded on occasion, since by dint of expedients as much as 106,000 tons had been stored at the docks at one time. At this meeting Alderman Twiggs pressed for permission to build the granary at the Royal Edward Dock which the Treasury had banned although power had been given under the Dock Act which received Royal Assent on the 31st July 1914. The Alderman also produced a plan showing proposals at the north-east corner of the Royal Edward Dock for temporary grain sheds 500 feet by 150 feet, each shed to hold about 7,500 tons of grain stored in bulk to a height of about 4 feet 6 inches. The Alderman did not get his granary then, but the Wheat Commission did requisition in August 1917 the land shown to them on the plan and promptly put up four wheat sheds which, although usefully employed from then till now, remained after purchase by the Port as a memorial to a wheat shortage which by deliberate diminution of grain imports in 1918 the sheds were never needed to remedy.

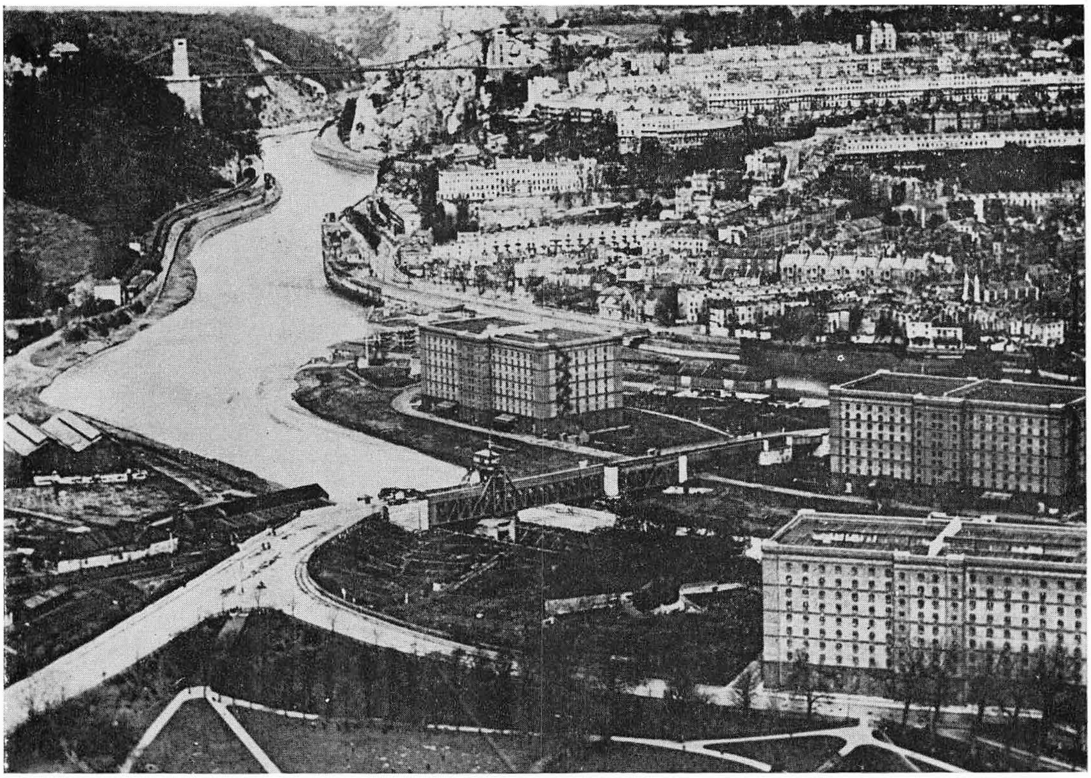
At the beginning of August 1917 the scene at Avonmouth from the Wheat Commission's point of view was serious enough to justify the building of emergency storage sheds. The glut of arriving grain in ships loaded to the utmost in unusual places had made unloading difficult and brought about a shortage of labour. The Dockers' Union were at deadlock with the Shipping Controller in London about the bringing in of labour from the Transport Workers' Battalion, a force of over 10,000 men recruited from dock and similar sources to meet such emergencies. In June nearly 6,000 men from the Battalion were daily employed at other ports. The Transport Workers' Federation considered the labour supply at ports was being unduly depleted and that, in general, men from the Battalion were being brought in before proper arrangements were made for use of the labour available at ports. However that may be, men from the Battalion were not brought into Avonmouth at that time. Enough labour was not available at Avonmouth for delivering goods from store and the Port Authority was by August in arrears with orders received but not executed to the extent of 12,000 tons of grain and 2,658 tons of general goods. The Landed Grain Committee, an offshoot of the Royal Commission on Wheat Supplies to deal with the distribution of grain once ashore, was itself waiting for orders amounting to 11,000 tons to be despatched by the Port from Avonmouth. This very body was later to be an offender when the Port could not obtain orders to get grain moving from storage space needed for the reception of cargo from ships arriving or due to arrive.

For the moment however it was our military friends who were bottling up the grain warehousing resources of the Port. What mattered that so long as the Army had oats in handy storage for its horses and mules? For the Army had also been about its business by having oats bought overseas on a large scale and in mid-August 10,700 tons of Army oats for which no delivery orders could be obtained were in store at Avonmouth. As Ross-Johnson pointed out to the Docks Committee, this storage of oats represented more than the capacity of either of the Port's four large granaries. As long ago as the 1st June the *Pretoria* from Bahia Blanca in the Argentine had discharged 4,000 tons of oats at Avonmouth. It was the practice of the Port and Transit Executive Committee in London through the local Co-ordination Committee to instruct those concerned at ports to speed up the discharge of selected ships. The *Pretoria* was one of six ships where speedy discharge was asked for by the Port's Transit Executive at the beginning of June 1917 and the 31,500 tons of cargo in these six ships was discharged in 38 working days, a saving of 17 days on working under normal conditions; but whilst these ships were presumably urgently needed, such preferential discharge was like many emergency measures at this time only robbing Peter to pay Paul since six other ships including the regulars *Welshman*, *Montfort* and *Camito*, with grain and general cargo, took 53 working days in all to unload instead of 36 days under ordinary conditions. The delay in commencing to unload a ship after arrival was on average three days at this time. To add to the difficulties in clearing sheds, warehouses and granaries there were intermittent shortages of trucks and at other times restrictions by the railway companies in accepting loaded trucks as their terminals at destinations were too congested. Amid all this in June and July, relief came to the hard-pressed Avonmouth establishment but not of course in the way desired.

The Shipping Controller, a post created at the Ministry of Shipping by Lloyd George two days after his becoming Prime Minister in December 1916, now decided to divert cargo ships from the Avonmouth Docks until the congested storage could be substantially cleared. Thus in the four weeks to the 1st September 1917 only two ships with inward cargo consisting of about 12,500 tons of general goods arrived at Avonmouth. The Port and Transit Executive at Ross-Johnson's request persuaded the Army to give delivery orders for their oats and by the 8th September grain storage at Avonmouth with a total capacity of 44,000 tons had been reduced to 37,000 tons and the only orders outstanding at Avonmouth or at busy Portishead was for about 5,000 tons of grain. Trucks however had not averaged much more than 2,000 a week out of Avonmouth during the month of August. This chronic shortage of railway trucks during the war contributed in two ways to the congestion of sheds and warehouses at the Port. Goods for which orders had been received had to remain in dock stores longer than need be and much cargo for which ex-ship orders had been promptly received could not be loaded direct from the ship into railway trucks alongside because trucks were not available. Ex-ship delivery cost the merchant less since if ex-ship cargo were put into shed, rent would soon begin to be charged and there was the second labour charge for loading goods from the shed into trucks when such became available. Cargo ex ship, particularly grain, could also go overside into coasters or into barges to be taken up river to the City Docks to the waterside mills and warehouses. These strings of barges being towed up the Avon had for long been a familiar sight and City flour mills relied upon being fed in this way as well as receiving to a lesser extent English grain from inland. We have seen how the shortage of railway trucks led to higher costs in causing ex-ship orders to be put into dock stores and in keeping direct-to-store goods a longer time in store while owners waited for wanted deliveries. The Wheat Commission now necessarily took a hand in devising another method of piling up the costs.

By 1917 the pre-war flow of goods in and out of the City Docks had fallen from over two million tons a year by nearly a million tons. There were transit sheds to spare at the City Docks. Furthermore, by the autumn of 1917 the third Tobacco Warehouse at Clift House, Ashton, for which the Docks Committee had placed a contract with William Cowlin & Son in February 1915, was now after understandable wartime delays approaching completion. In August 1917 the Wheat Commission decided to rent various sheds at the City Docks and also the new Tobacco Warehouse for storing grain. The expenses began quite normally with a comparatively low charge by the Port for sacking up the grain from bulk in hold and hoisting it overside to be stowed in barge. But then came the bargeowners' charge for the eight-mile tow to City quay and after that a firm of stevedores had to unload the sacks from barge to quay, truck them into shed and stack for storage and eventual removal. For tobacco storage the third Tobacco warehouse needed neither landing stage nor rail connection. All those great round hogsheads of tobacco would be brought there by road and so too had now to be brought from City quay or shed the sacks of the Wheat Commission's Avonmouth grain hauled and warehoused by their agents, the Bristol hauliers, William Burgess and Sons. Ross-Johnson told the Docks Committee: ". . . the above measures, when given effect to, will give us an additional storage capacity of something like 200,000 quarters (about 40,000 tons) which will very much improve our position if the labour difficulty can be got over. The labour shortage, however, is certain to be chronic . . . ".

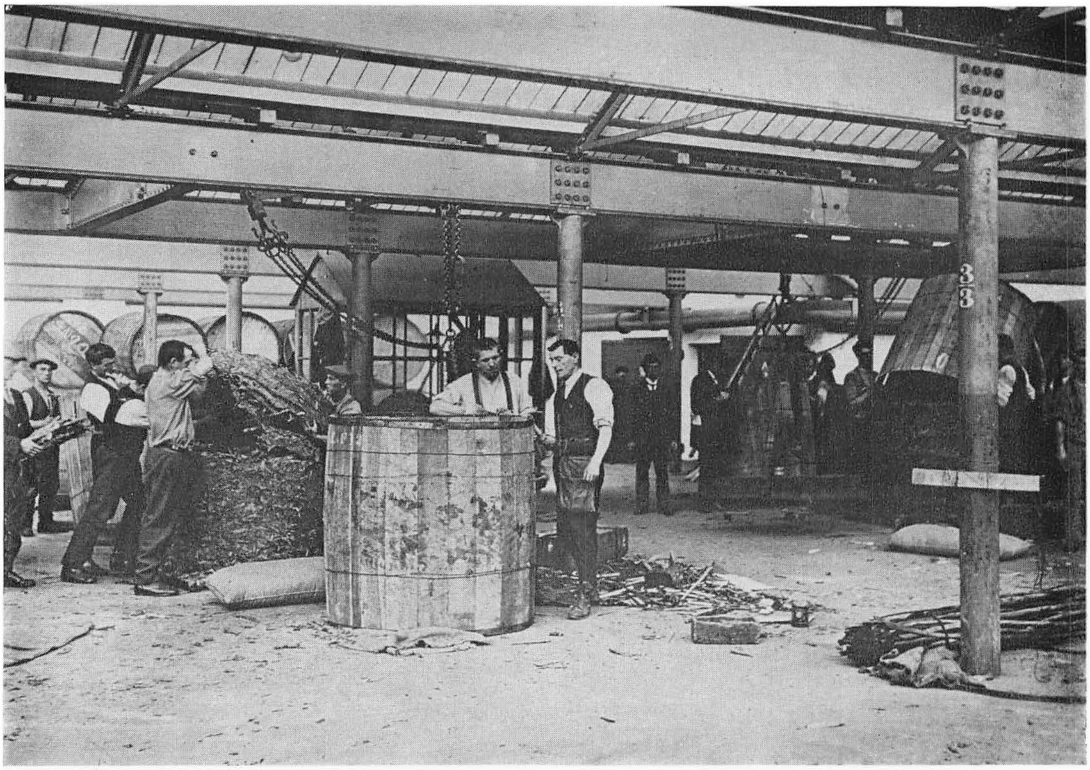
This confused scene in June, July and August 1917 has been recounted to show some, and only some, of the wartime difficulties the management at Avonmouth had to endeavour to overcome. Now it has been said that the convoy system, which after tentative use in June, July and August 1917 was in useful operation by September and was greatly extended thereafter, did much to



The Three Tobacco Warehouses of the Port Authority

Tobacco Warehouse C built in wartime is shown in the right-hand corner of this aerial photograph taken in the earlier 1920's. Beyond is Tobacco Warehouse A, but between the two warehouses is a short length of the old course of the River Avon now taking from the New Cut the surplus water from the upper reaches of the River Avon that flows over Netham Dam about three and a half miles upstream. In the centre of the picture is Tobacco Warehouse B built with Warehouse A early this century on the south side of the Cumberland Basin. The Ashton Swing Bridge opened in 1906 spans the river. The upper deck carried road traffic and the lower carried Harbour Railway traffic.

Beyond Cumberland Basin are many of the houses of Hotwells that gradually climb the hillside to the foot of the Georgian terraces of Clifton. Down river is the beginning of the Avon Gorge spanned by the Clifton Suspension Bridge.



Sampling Tobacco

The Port Authority's three bonded tobacco warehouses could store in all 30,000 casks. Each warehouse had reception, sorting, delivery and eight storage floors with a total area of 180,000 square feet served by electric lifts.

Upon reception, tobacco was checked for gross weights under the scrutiny of Customs men. Thereafter it was usually taken by lift to the top floor, specially lighted from the north, in order to find net weights and take 4-lb samples from various parts of the bulk. The remaining tobacco was then carefully put back into its cask which was re-coopered and made ready for storage for long or short periods, sometimes for years, during which time the tobacco matured for manufacture. It is this work upon a top floor that our photograph shows.

increase occasions of labour shortage and storage congestion at West Coast ports. This may seem obvious if we have the picture of a convoy of ships coming up the Bristol Channel, crowding into the Avonmouth Docks with three or four in Portishead and the rest anchoring in Walton Bay until dock berths should become available. But that picture, like an early bird's-eye lithograph showing in reds and greens every Avonmouth berth double-banked with steamers, just is not true. What was the convoy system and how did it affect the Port of Bristol from September 1917 onwards?

There were both inward and outward convoys. Both were of concern in the matter of shipping losses, but the inward convoys bore those cargoes whose undue loss could devastate the country's war effort. The inward convoys of greatest consequence were those from North America whence valuable supplies preferably came by reason of the shorter ocean distance than from Australia or the East. Hampton Roads in Virginia at the entrance to Chesapeake Bay was the mustering point for southerly loadings from the United States for as far north as the ports of Philadelphia and Baltimore. In Hampton Roads there also gathered ships bound to Britain from the Panama Canal, from the oil ports of the Gulf of Mexico and from the islands of the Caribbean. Ships from the more northerly American ports and from Canadian ports assembled at New York though fast ships and Canadian troopships also used Halifax in Nova Scotia where terrible damage was caused by the explosion of a munitions ship in December 1917. A large number of convoys also came from Sydney not far from Halifax. From Gibraltar came an assembly of ships from the Mediterranean which had for some while been the scene of heavy shipping losses caused by submarines based on Cattaro within the Adriatic. Ships from India and the East had accordingly been diverted around the Cape of Good Hope but later returned to the Suez Canal route when a convoy route through the Mediterranean to Gibraltar had been established. To Dakar near Cape Verde in French-held Senegal on the Atlantic bulge of Africa came ships from South America, from Australia, from Africa and those from the East when diverted around the Cape. These convoy routes were somewhat diversified and extended to meet emergencies and changing needs. The outward assembly points were Falmouth, Devonport, Milford Haven, Queenstown in South Ireland and Lamlash in the Firth of Clyde, whilst special convoys were soon arranged direct from Liverpool, the principal of the West Coast ports, and the key port of the kingdom for wartime trade and supplies even as Southampton was the key port for embarkation for France.

The number of ships forming an inward convoy varied between ten and twenty with an average of fifteen ships to a convoy. North American convoys were brought across under escort of cruisers or armed merchantmen to within 300 or 400 miles from land where a destroyer escort would take over to bring them to some suitable dispersal point within home waters. From the dispersal point the steamers forming a convoy would in the early days of the system proceed unescorted upon their individual courses to the various British ports at which their cargoes were due to be unloaded. This general procedure was varied from time to time to meet the changing tactics of German submarines. From the August figure of 330,000 tons gross of British shipping lost, the September figure fell to 196,000 tons, the October loss of British shipping was 276,000 tons followed by losses of 174,000 tons in November and of 253,000 tons in December. Such losses were disastrous enough, but the wounds were no longer mortal. In those five months the loss of German submarines rose steeply from the former average of about two a month to a loss of thirty-seven from August to December 1917 against the commissioning by the Germans of forty-four new submarines. This increased rate of submarine loss was principally due to the increased laying of mines by the British Navy in the Heligoland Bight and in the Straits of Dover. Convoy escorts sank no more than four German submarines to the end of 1917 during which year sixty-seven German submarines were lost from all causes.

The reasons for the success of the convoy system are not hard to find. The wide ocean spaces are vaster than they appear in the largest atlas. German submarines out on Atlantic patrol were unguided towards merchant shipping by wireless information from enemy aircraft and mainly relied upon surfacing in hope of finding a target within the limited vision at sea level. The former policy that ships should travel singly, even with some deviation from accustomed trade routes, had resulted in a large number of lonely targets heading for British waters every day, targets that however great their deviations had eventually to come more closely together in the approaches to the English Channel or to the Bristol Channel and the Irish Sea or in the north-about approach to the Irish Sea and the Clyde. It was in these three approaches and within the Mediterranean that most sinkings were made by German submarines, which by 1917 had increased in numbers and in size, speed and technical equipment. The chances of surfacing and espying a target were substantially lessened when ten, fifteen or twenty merchant ships formed in convoy even though such an assembly of ships keeping station at safe distances apart might spread over an appreciable sea area within the encircling horizon around the convoy. The ocean like a dark forest at night had become an immensity where solitary wanderers were rare and if met were likely to be either up to no good purpose or well able to look after themselves. A moving convoy was no easy target to find in the vast Atlantic even when that ocean was in pacific mood and, the convoy found, the surfaced submarine could be vulnerable to the armed escorts and to the naval ratings who were now coming to man the merchantmen's guns. More and better German submarines there might be, but while Britain's shipping losses were not being made good neither were the German losses of those skilled and daring U-boat commanders whose results had shown such a wide margin of successes over the more occasional sinkings by less apt commanders and crews. Locating and attacking convoys became both unprofitable and more risky than attacking a lonely merchantman. Submarine commanders now sought to fish in less troubled waters.

XIX

1917-1918: Unquiet Channel

THE convoy system saved the country from disaster at sea on a scale that could have lost the war. In the seven months from February to August 1917 the monthly losses of British shipping averaged 380,000 tons gross. For September 1917 the first month of regular convoys, notably in the North Atlantic, the loss of British shipping fell to 196,000 tons gross, but losses continued at an average rate of 218,000 tons a month from September 1917 to April 1918. The terrible losses of those seven months in 1917 had been nearly halved but the continuing losses were far too high for either British yards to replace British losses or for the shipyards of the world, not including those of the enemy, to replace the losses of other maritime countries which, roughly enough, were about half the British losses at this time.

As early as October 1917 the undersea boats began to move closer inshore from their hunting grounds in the Outer Approaches to attack in home waters those unescorted ships dispersing to their various ports from inward convoys. In these nearer waters the Germans could also look to find ships moving from ports to join outward convoys at one of the assembly points. The Navy's shortage of escort ships and the increasing convoy demands upon such escorts made it difficult to counter these inshore enemy tactics. In the month of October 1917, British losses by enemy action rose from the 196,000 tons gross in September to 276,000 tons and the total losses throughout the world in October amounted to 458,000 tons. That month 121 steamers of over 500 tons gross were sunk. In home waters twenty-three ships were sunk in the English Channel, sixteen in the Bristol Channel and the Irish Sea and seventeen in the North Sea. In those recent graveyards of great ships, the three approaches to these islands, namely, from the south and south-west to the English Channel, from the south-west and west to the Bristol Channel and the Irish Sea and from the west northabout to Glasgow and the Irish Sea, only four ships were sunk during October 1917. Between November 1917 and January 1918 over 60 per cent of the sinkings took place within ten miles of shore and only 2 per cent more than fifty miles out. In January 1918 fourteen ships were sunk in the Bristol Channel and the Irish Sea out of a world total of eighty-seven steamers of over 500 tons gross. Until January 1918 the faster Bristol Channel ships had gone unescorted to Queenstown to join fast outward convoys, but the risk from Lundy to Queenstown was such that the fast ships from the Port now joined the convoy of slower ships that set out from Milford at the entrance to the Bristol Channel. In February twenty steamers of over 500 tons were lost in the English Channel and twenty-four in the Bristol Channel and the Irish Sea. Liverpool was the predominant West Coast port during the war and from the end of March 1918 destroyers began to escort convoys directly to and from that port in order to counter submarine attacks in the Irish Sea. Atlantic convoys in general were also escorted closer to shore. By the autumn of 1917 a steamer needed to be able to travel at not much less than 20 knots for speed to be a factor in escaping from the new German submarines.

Within the Bristol Channel only one steamer the *Wisbech* of 1,282 tons gross was sunk during the month of August 1917. This armed steamer was torpedoed without warning on the 14th twelve miles north-east of Trevose Head. On that day two armed steamers escaped, the 1,858-ton *Normandiet* fought the submarine off by gunfire and the torpedo aimed at the 5,579-ton *Natica* missed. Two days before, a small fishing smack *Gloriosa* was captured by submarine and sunk by bombs twelve miles south-west of Caldy Island near Tenby. From the 10th to the 12th September it would seem that we can trace the next cruise of a U-boat into the Bristol Channel along the north coast of Cornwall. On the 10th, four small sailing vessels ranging in tonnage from 91 to 161 tons and in date from 1865 to 1888 were sunk seven or eight miles north of Pendeen Lighthouse far west along the Cornish coast. The four vessels were the 1865 *Mary Seymour*, built at Padstow, the 1868 *Mary Orr*, the 1876 *Water Lily* and the 1888 *Moss Rose*. The same day the 1870 *Jane Williamson* of 197 tons was sunk by gunfire farther from the coast some twenty miles north of St. Ives. Four of the crew including the Master were killed. All these captured and unarmed relics of a disappearing past were sunk by bombs or gunfire. Also on the 10th September the steamer *Ioanna* of 3,459 tons gross was torpedoed but reached a British port. The following day the steamer *Luxembourg* of 1,417 tons gross struck a mine three and a half miles from Pendeen Lighthouse and sank but by then the submarine appears to have been sixty miles away along the coast and four miles off Crackington Haven where the fishing smack *Rosy Cross* and the 1872 sailing vessel *William* of 60 tons were both captured and sunk by bombs. The submarine then appears to have headed north since a day later on the 12th September the 1871 sailing vessel *Agricola* of 49 tons gross was captured and sunk by bombs some fifteen miles north-west of Lundy. The armed steamer *Johan Siem* of 1,660 tons gross was also attacked by gunfire that day but escaped after an exchange of shots. This seems to have ended the submarine's cruise within the Bristol Channel since there were no further attacks or sinkings within the Channel that month until on the 29th the *Kildonan*, a steamer of 2,118 tons gross, was torpedoed and sunk without warning two miles off Pendeen Lighthouse with a loss of fourteen lives including the Master.

A similar pattern of events continued within the Bristol Channel throughout the last three months of 1917. Two fishing smacks, the *Rupee* of 39 tons and *Young Clifford* of 47 tons, were sunk twelve miles north of Lundy on the 4th October when the skipper and three of the crew of the *Rupee* lost their lives. The steamer *Polsdown* of 1,370 tons gross was sunk by mine two miles off Trevose Head on the 9th October with the loss of eighteen lives. When the *Cape Corso* of 3,890 tons gross was torpedoed on the 12th, the steamer was towed into a British port but thirteen lives were lost. The 20th October saw the loss of the large steamer *Ionian* of 8,268 tons gross when the ship sank after being torpedoed without warning two miles from St. Govan's Head on the Pembroke coast. Seven lives were lost. In November one steamer, the unarmed *Clangula* of 1,754 tons gross, was sunk without warning four miles south-west of Hartland Point on the 19th when fifteen lives were lost. On the last day of the month two larger armed steamers escaped when the *Somersby* of 3,647 tons gross returned gunfire, while the *Nunima* of 2,938 tons gross was missed by a torpedo, but two fishing smacks, the *Courage* of 39 tons and the *Gazelle*, were captured that day by submarine six miles north-west of Lundy and sunk by gunfire. December 1917 was quiet in the Bristol Channel until the 21st when the steamer *Mabel Baird* of 2,500 tons gross was missed by a torpedo but continuing her voyage was torpedoed without warning and sank next day four miles west of the Lizard. Back within the Channel, on the 22nd the *Hunsbrook* of 4,463 tons gross was beached after being torpedoed and on the 23rd the *Elwick* of 1,717 tons gross escaped when missed by two torpedoes. The last such events in the Channel in 1917 were the sinkings without warning by torpedo of the *Lord Derby* of 3,757 tons gross on the 28th December seven miles south-west of St. Anns Head on the Pembroke coast and of the steamer *Zone* of 3,915 tons gross, four miles north of St. Ives on the 30th December 1917.

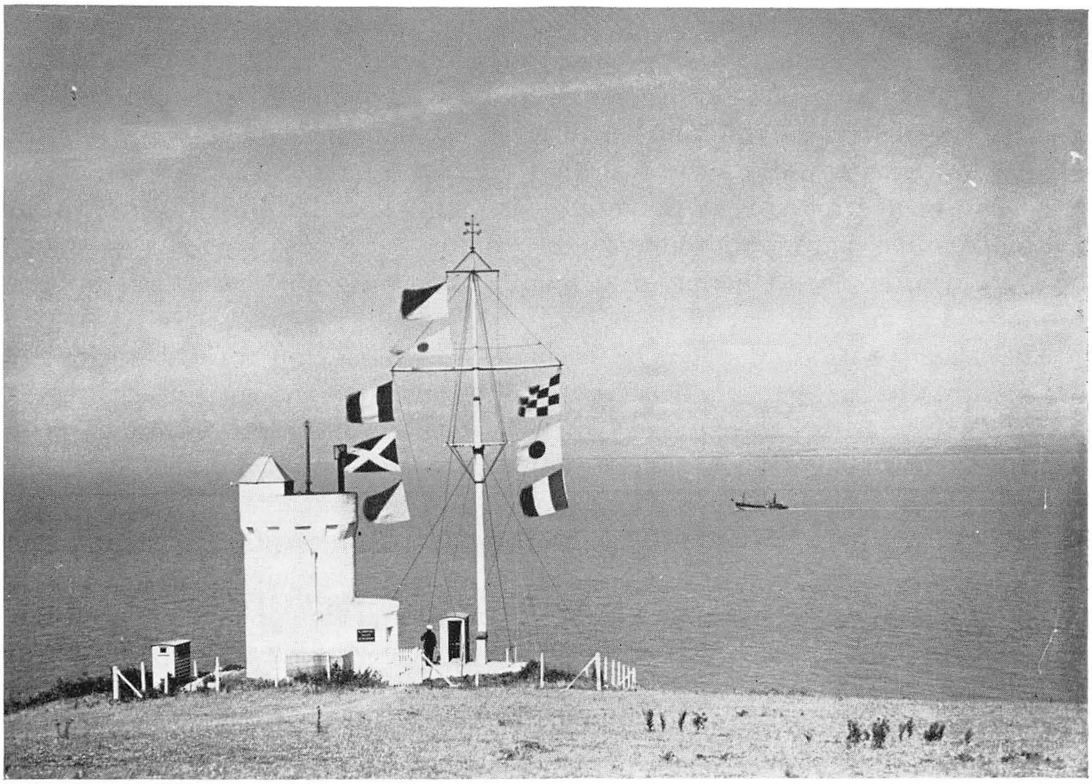
Not all the ships whose loss or adventures within the Bristol Channel are here recorded can be said to be bound either to or from the Port of Bristol. There are no wartime lists of expected arrivals at the Port to guide us in finding the names of those ships due to arrive but lost by enemy action. Moreover, the South Wales ports in addition to their general trades were then much frequented by colliers in the export trade and by steamships calling there solely for the purpose of bunkering with coal. Of the first ship sunk in 1918 we need however be in no doubt. For the *Boston City*, 2,711 tons gross and 1,653 tons net, was Bristol built, Bristol owned and from Bristol bound. The *Boston City* was built and launched at the Albion Dockyard in the City Docks by Charles Hill & Sons Ltd. to take the place on their Atlantic service of the *New York City*, sunk off Ireland in August 1915. The new ship sailed for New York under one of their senior captains, J. J. Carey, early in 1917. Five times that year on the 18th April, the 6th June, the 15th August, the 14th October and on the 17th December 1917 the steamer came safely back into the City Docks with cargo from New York, although on the 11th October the *Boston City* under Captain J. J. Carey was narrowly missed by torpedo off the north coast of Ireland. On the 2nd January 1918 the *Boston City*, armed and under the command of Captain M. C. Crinks, was outward bound for New York with a cargo of china clay but when eleven miles from St. Anns Head on the Pembroke coast was torpedoed without warning. Captain Crinks remained aboard in hope of help that did not arrive and the sinking steamer had at last to be abandoned though without loss of life. On the same day the *El Paraguayo* of 8,508 tons gross and the *Deneb* of 1,230 tons gross were under attack in the Bristol Channel but in each attack the torpedo missed.

As early as the 19th February 1917 the arrival of hospital ships with wounded or invalided men mostly from the Middle East campaigns began to be part of the scene at the Royal Edward Dock. These ships, many of the larger size that sailed for Gallipoli two years before, were usually berthed for a day or two at Shed S where ambulance trains could be marshalled to take the returning men on their journeys to inland hospitals. The British India Steam Navigation's 1906 *Rewa* of 7,308 tons gross was the first of a succession of such ships to arrive. Hospital ships were painted white, prominently marked with signs of the Red Cross and when on voyage were brightly lit at night in accordance with convention. That this did not suffice to give immunity from German submarine attack was early shown when on the 1st February 1915 the hospital ship *Asturias* was missed by a torpedo fifteen miles north of the Havre Lightship and a smaller hospital ship the *St. Andrew* escaped later in the month when chased near Boulogne. Such outrages against British merchant ships converted into and duly marked as hospital ships were not resumed until March 1917, but altogether out of the ten such hospital ships attacked by German submarines during the war five were sunk. Several hospital ships were also sunk or damaged by mines, but mines are notoriously indiscriminate as to ship, person or the purpose of a voyage. The *Rewa* made three calls at the Royal Edward Dock in 1917 on the 19th February, 28th March and on the 9th September. This hospital ship with sick and wounded men aboard was again making her way up the Bristol Channel towards Avonmouth on the 4th January 1918 when she was torpedoed without warning nineteen miles west of Hartland Point. Although the steamer sank quickly, all patients were saved from the wintry sea and taken northwards across the Channel to Swansea. Four of the crew lost their lives.

Upon the same day as the sinking of the *Rewa*, a small sailing vessel, the *Victor* of 163 tons was attacked by gunfire from a submarine. The *Victor* was more fortunate in being rescued. There was a pause in enemy action within the Channel until the 20th January when a torpedo missed the *Isleworth* of 2,871 tons gross, but on the last day of the month the armed steamer *Towneley* of 2,476 tons gross was torpedoed without warning eighteen miles north-east of Trevose

Head with the loss of six lives including the Master. The rescue of the sailing vessel *Victor* was presumably by naval surface craft, although it could have been by the approach or intervention of one of the large number of merchantmen by then armed with a gun for defensive purposes. As a busy commercial dock at the head of the Bristol Channel, Avonmouth had not been much visited by naval ships or craft up to the end of 1917. Submarine activity in the Bristol Channel, as shown by the localities where ships were sunk, lay to the west of Lundy with the seas around Trevose Head, forty-five miles south-west of the island, as a favoured lurking point. It is true that the first steamer to be sunk in the Channel, the *Bengrove* on the 7th March 1915, was sunk some five miles north of Ilfracombe at a point about twenty-five miles east of Lundy but such an exploit east of the island did not take place again. It was accordingly around and beyond Lundy that patrols against U-boats would best serve the cause. In 1916 and early in 1917 the Admiralty were much criticised for the number of steamers and smaller craft requisitioned and equipped to hunt submarines and for the extent of new craft built for this purpose. As reflected in the number of German submarines sunk the result of such Admiralty efforts was wholly disproportionate, but the sounds of the presence of these surface activities caused great concern to the undersea mariners and thoughts of the likely arrival of surface craft caused many too hurried attacks by submarines to fail. Credit should also be given to these surface craft for the rescue of many merchant ships in course of being attacked.

From the 1st January 1918 onwards nearly all our merchant shipping losses were caused by submarine attack and throughout the remaining months of the war only thirteen ships adding up to 25,777 tons gross were to be lost by other forms of enemy action. In January 1918 our entire loss of fifty-seven merchant ships of 179,973 tons gross resulted from submarine attack. In that month three of those ships amounting to 12,495 tons gross had been sunk within the Bristol Channel, while attacks on four other ships of 12,772 tons gross were in vain. During the twenty-eight days of February 1918 there was to be a greater loss of life within the Bristol Channel by enemy action than in any other month of the war. On the first day of the month Trevose Head was again a place of danger. Ten miles north-east the 116-ton steel ketch *Kindly Light* of Bideford was captured and sunk by gunfire without loss of life. Six miles north-west of the headland that day the armed steamer *Cavallo* of 2,086 tons gross sank with a loss of three lives when torpedoed without warning and on that day the steamer *Mourino* of 1,819 tons gross that also carried a defensive gun was missed by torpedo. On the 3rd February the steamer *Petrograd* of 1,713 tons gross was doubly fortunate by being hit by two torpedoes that failed to explode, but the small steamer *Sofie* of 354 tons gross was reported missing and presumed sunk in the Bristol Channel by submarine with the loss of eight lives including the Master. The capture and sinking by gunfire of the 48-ton fishing smack *Holkar* eight miles



Walton Bay Signal Station

It is to this Signal Station standing on high land between Portishead Dock and Clevedon that ships report their identity in the course of entering one of the Port Authority's three docks. The information is then transmitted to the Dockmaster concerned with the ship's arrival.

The Signal Station that in clear weather has a visibility as far as the islands Flat Holm and Steep Holm, overlooks Walton Bay, the Port's principal anchorage for vessels awaiting instructions or permission before docking.

north of Trevose on the 6th February ended the losses in the locality that month. On the 13th the steamer *Sarpen* of 1,864 tons gross was missed by torpedo but the following day ten miles south-west of Lundy the 119-ton wooden schooner *Bessie Stephens* of Fowey, built at Par in 1878, was captured and sunk by gunfire. No doubt it was as well on the 19th that the small steamer *Lady Tennant* of 454 tons gross owned by Nobel's Explosives Company was the third steamer in the Bristol Channel that month to have a torpedo pass harmlessly by. Her luck even held good in the Irish Channel next month when the *Lady Tennant* fought off a submarine in an exchange of shots.

The heavy February disasters in the Bristol Channel came towards the end of the month. On the 24th the *Renfrew* of 3,830 tons gross was torpedoed without warning over on the north side of the Channel when ten miles south-west of St. Anns Head near Milford Haven. Forty lives were lost including that of the Master. Worse was to follow. The hospital ship *Glenart Castle* had entered the Royal Edward Dock as recently as the 6th February to put ashore sick and wounded. On the 26th February the ship, duly marked in accordance with convention, was again steaming up the Channel on a similar mission but when ten miles west of Lundy was torpedoed without warning. Stone and Wells record that 153 lives were lost and as the official list of Merchant Shipping Losses gives the number of civilian and crew losses as ninety-five including the Master, it appears that fifty-eight of the wounded also died in this outrage. Altogether in February 1918 the losses of British shipping by submarine attack amounted to 68 ships of 224,501 tons gross with the loss of 697 lives. Within the Bristol Channel 146 lives, apart from servicemen, were lost in the sinking of four steamers of 13,094 tons gross while four steamers of 5,850 tons gross and all defensively armed escaped from submarine attack.

Although the losses of British merchant shipping in March 1918 continued at about the usual rate since August 1917, the Bristol Channel had the quietest month for over a year. On the 3rd March the armed steamer *Northfield* of 2,099 tons gross was sunk without warning twenty-five miles south-west of Lundy Island with the loss of fifteen men including the Master. Far more serious could have been the submarine attack on the inward bound hospital ship *Guildford Castle* of 8,036 tons gross that had already made three safe arrivals at the Port in March, August and October 1917. Two torpedoes were fired at her on the 10th March but one missed and one failed to explode so that the *Guildford Castle* survived the hazards and safely berthed in the Royal Edward Dock the following day. Throughout the rest of March the Bristol Channel was undisturbed by enemy attack on British merchant ships but upon all seas 79 such ships adding up to 194,839 tons gross with a loss of 490 lives were sunk by submarine attack, while another 81 British merchant ships of 322,239 tons gross escaped from attack but suffered the loss of 63 seamen or civilians.

The reprieve from attack within the Bristol Channel during the last three weeks of March continued until the 14th April when the steamship *Boma* of 2,694 tons gross was attacked by torpedo but escaped undamaged. The *Dalegarth Force*, 684 tons gross and armed, was sunk on the 18th twelve miles south-west of Hartland Point with the customary lack of warning and ten days later the armed steamer *Elba* of 1,081 tons gross was similarly sunk off the far Cornish coast six miles north-west of Pendeen with a loss of ten lives. But on that day, the 28th April, as the Port year drew to a close, three ships all armed escaped from attacks in the Bristol Channel. The steamer *Orion*, 851 tons gross, and the steamer *Libourne*, 1,219 tons gross, were both missed by torpedo and, true to name, the 1885 sailing vessel *Alert*, a three-masted wooden schooner of 163 tons registered at Falmouth, fought off her submarine attacker gun for gun.

April 1918 in the Bristol Channel seems remarkable not for the sinking by German submarine of two British merchant ships but rather for the escape of the four others that came safely through attack. Yet for long accustomed to news of loss, should we be surprised at such a likelihood of escape? What chance had a British merchantman when attacked by a German submarine? Clearly on each occasion the odds depended upon a wide range of circumstances, but the averages of recorded events will override all variations to give us answers. April 1918 is however not yet the time for full research since each year of the war had its own ratio of losses in relation to the total number of ships attacked by German submarines. Moreover, while we have been looking out over the waters of the Bristol Channel, events have not run that smoothly within the Port.

XX

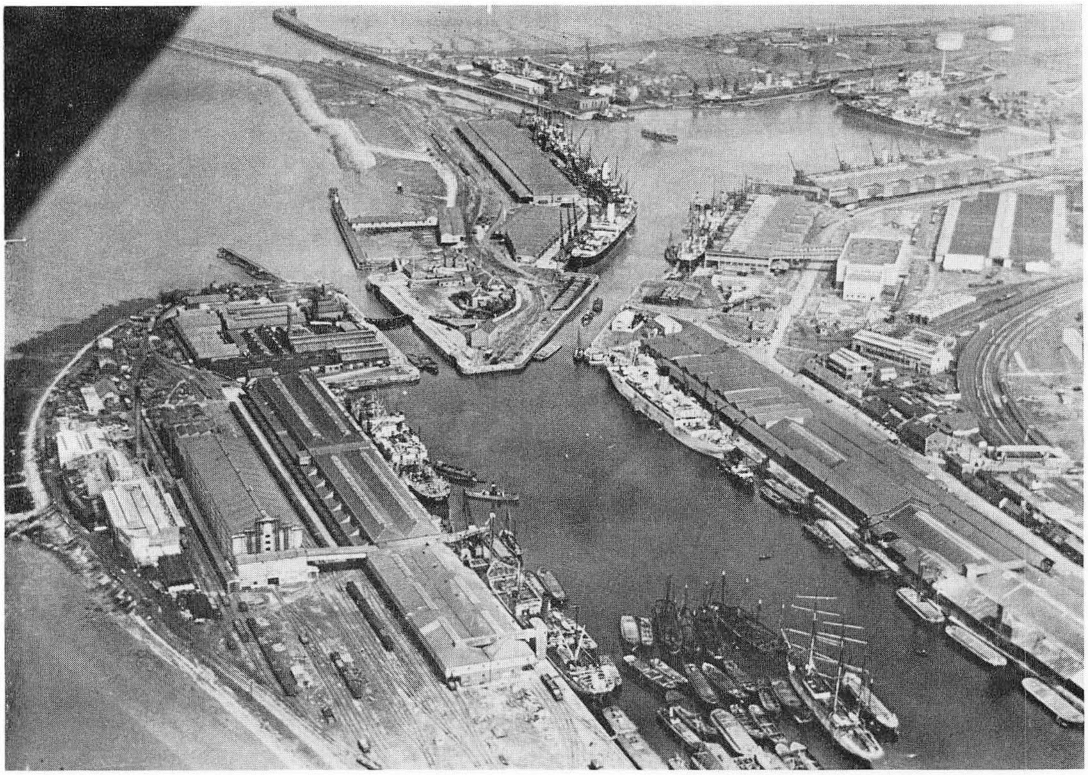
1917–1918:
Convoys in Port

Our last look at the state of affairs within the Avonmouth Docks was in August and September 1917 when the Shipping Controller decided to divert ships elsewhere until the granaries and sheds packed with grain for which delivery orders were not forthcoming should be cleared to some extent. The diversion was so complete that after the 4th August no ship with trade cargo from overseas is recorded as arriving at Avonmouth until the 25th August. By the 1st September substantial orders for the delivery of the slumbering grain had been obtained from the Army Supply Depot for some of their 10,000 tons of horses' oats and from the Wheat Commission for part of their reserve stocks. On the afternoon of the 10th September Ross-Johnson was able to tell a relieved Docks Committee that the grain stocks at Avonmouth had fallen from 54,000 tons on the 27th of August to 37,000 tons. "We are now in a position to work to advantage any ships which may be received." It was as well. The convoy system which had been having trial runs during June, July and August was now to be put into organised and increasing use, particularly upon the North Atlantic routes which since being pioneered from Bristol Quay by John Cabot in 1497 had gradually become of prime importance to the Port of Bristol. The stocks of grain that yet remained in sheds and granaries at Avonmouth would have been even further reduced but for the fact that during this clearance time no more than about two thousand empty trucks a week were sent in by the railway companies to the Dock Exchange Sidings for loading at the Avonmouth Docks.

It may be remembered that one of the arguments in April 1917 against the proposed convoy system was the congestion that would be caused in ports upon the arrival at one time of quite a number of ships loaded to capacity with large cargoes in an endeavour to make good the loss of so many of their former fellow-travellers. This forecast of port congestion at West Coast ports was confirmed when the convoy system came into use. So the ports, the railway companies, the government agencies blocking port sheds with goods, the port employers and the labour unions, all these now found a new alibi for their troubles, their failures and in some instances their intransigence. It is not within our purpose to find out how much congestion the convoys caused at other West Coast ports, but since it has been said within our own Port that great difficulties were caused at the Port from September 1917 onwards by the crowding arrival of convoys it is time for unbelievers to try to see what did happen and why. As usual in parting the curtains of war-time security we may see other interesting things.

The prime reason for doubting that the convoy system necessarily caused or much contributed to congestion at Avonmouth arises from the sharp fall that took place in the number of cargo ships arriving from overseas as a result of the increased scale of the German submarine campaign from February 1917 onwards. In the calendar year 1916 there had arrived at the three docks of the Port 648 ships engaged in overseas trade, a neat average of fifty-four ships a month. January 1917 with fifty-six ships and February 1917 with forty-eight trade ships that had crossed the deep waters, recorded only one ship less than those two months of the year before. Then during February and for many months to come the German submarine onslaught sank more ships and more cargo than our country could for long endure. In March 1917 no more than thirty-one ships in the overseas trade came safely into the Port. In the nine more months of 1917 there arrived on average no more than twenty-eight ships a month to carry on the overseas trade at Avonmouth, the City Docks and at Portishead. Despite the much heavier trade cargoes now being brought from overseas in the ships that did arrive, those imports in the first year of the unrestricted submarine campaign were 400,000 tons less, one quarter less, than in the twelve months up to the end of February 1917. No wonder there was now plenty of room in the home larder. This drastic fall in trade seems unlikely to foreshadow undue Port congestion and certainly not congestion on a much greater scale than in the years before, but such trouble could arise if several ships with heavy cargoes arrived off convoy within two or three days.

There was little direct help that either Portishead Dock or the City Docks with their lesser and shallower entrance locks could give in taking the larger ships with heavy cargoes. So it was upon the Avonmouth Docks that the burden of the convoys would fall. The Royal Edward Dock had 4,400 feet of quays and the 1877 Avonmouth Dock had rather more quayage at 4,800 feet. The 1913 map at the end of this book would need little alteration to show these quays and sheds in 1917 except where the "Timber Channel" in the Royal Edward Dock had ceased to be such and was being used for petroleum imports at a jetty built on the north side near the entrance from the main dock. Aerial photography for military purposes was greatly developed during the war and whilst there is no doubt that the 1913 map of the Avonmouth Docks will give the mind the clearest concept of the dock layout, some aerial photographs taken for the Docks Committee after the war will certainly give to the eye a greater sense of reality. Keeping to the plan for the moment we may see that Sheds O, P, R and T each had a berth of about 500 feet backed by a transit shed. Sheds Q and S had a desirable straight run of 1,000 feet of quayage. This stretch at Sheds Q and S was much used by various kinds of Government ships. The undeveloped North Wall of



THE AVONMOUTH DOCKS

THIS AERIAL PHOTOGRAPH in the early 1920's is from an approach over the River Avon. Below us lies the Avonmouth Dock of 1877. On the right beyond the sailing vessel is part of the 2,000-foot run of quayage backed by single-floor transit sheds. On the nearer side is 1000 feet of quayage with three transit sheds. The more distant Nos. 1 and 2 have cold stores on the upper floors. Behind them stands the Old Granary, a wooden structure with floors that could hold 10,000 tons of grain. We can see the gallery that carries conveyor bands to link the granary with grain elevators via Transit Shed No. 3. Between the Old Granary and the riverside are the premises of British Oil and Cake Mills Ltd. If, instead of the barges moored on the far side of Avonmouth Dock, we imagine ocean-going steamers to be moored there, then we can form some idea of the crowded state of the dock when, at the end of 1915, the *Spilsby* and her sugar cargo were moved from shed to shed.

In the distance lies the Royal Edward Dock, a description of which has already been given under a previous illustration.

the Royal Edward was used for mooring ships, repairing or not working. The Avonmouth Dock with 4,800 feet of quays was of a more useful design in that on the north-east side there was a straight run of 2,000 feet of quayage backed by transit sheds so that ships of varying length could be berthed without waste of quay such as would occur when a ship of 350 feet length was berthed at one of the 500 foot-berths in the Royal Edward. On the south-west side of Avonmouth Dock there was a straight run of 1,000 feet backed by transit sheds and another berth of 500 feet at Shed N. That said, however, it has to be borne in mind that there was a lesser depth of water in the Avonmouth Dock and the sheds and equipment were not so modern and effective as in the Royal Edward Dock.

During September 1917, the first month of regular convoys across the North Atlantic, ten steamers arrived at Avonmouth with general cargoes of various commodities amounting to 72,997 tons, mostly grain. A further steamer brought in a cargo consisting entirely of 5,324 tons of grain. The arrivals were spread conveniently enough through the month. On the 8th the *Mattawa* arrived from Montreal. On the 11th the *Amarante* came from Newport News, the *Grainton* from Baltimore and the *Hector* from New Orleans. These three ships were no doubt part of a convoy of about ten ships, the usual number in Atlantic convoys at that time, from the mustering point of Hampton Roads for ships from the more southerly ports on the eastern coast of the United States. On the 15th the *Cyclops* arrived from Montreal. On the 22nd the *Baron Napier* arrived from Newport News and on the same day *Port Napier* entered as the sole arrival at the Port from Australia in the six months from May to October 1917. The next day the *Laomedon* came in from Montreal and on the 27th there arrived from the same port the *Inveran*, the *Sorata* and a ship well-known in the Atlantic trade of the Port for many years before the war, the 1892 *Turcoman* of 3,683 tons net and 445 feet in length. The last three ships from Montreal almost certainly dispersed from convoy to come to Avonmouth and it is probable the others that came singly into the Port along that route were also convoyed up to a dispersal point.

The eleven cargo ships at Avonmouth in September 1917 had a total net register tonnage of 43,432 tons and whilst they ranged in size from 2,853 to 5,762 tons net, their average tonnage was about 4,000 tons net. Their cargoes amounted to 78,321 tons with an average cargo of 7,120 tons. This loading ratio of seven tons of cargo to four net register tons was considerably higher than the usual loading for North Atlantic ships coming to Avonmouth to discharge the whole of their cargoes before the war and shows the increased use which the Ministry of Shipping now required on account of our heavy shipping losses. The September cargoes were discharged at an average rate of rather more than 600 tons a day, ranging from 425 tons a day from the *Baron Napier* where the cargo was in bad condition to 1,029 tons a day from the *Amarante*. In the twenty-six days, Sundays included, from the 9th September to the 4th October there was landed from the eleven ships 78,000 tons of cargo at an average rate of 600 tons per ship on each working day at berth. Accordingly the ships were being unloaded at their various berths in the Royal Edward Dock and the Avonmouth Dock for about 130 berthing days. To know how much pressure was put upon the berthing resources at Avonmouth we must find out how many suitable berths the Port Authority had available, free of Government requisition or use, in September 1917. The answer is that it would only be safe to rely on one berth at Shed O and one at Shed P in the Royal Edward Dock and on seven berths in the Avonmouth Dock where no sheds were now remaining in Government occupation. Thus in twenty-six days the nine working berths would be available for 234 berthing days. The eleven ships needed to be at their berths for only 130 days to unload their cargoes and even if we allow each ship a day at berth before and after unloading, or perhaps even more than that, it is clear that there was no shortage of berths at Avonmouth to deal with what proved to be one of the three busiest times at Avonmouth during the remainder of the war.

On ship and ashore during September there was no shortage of labour and a tolerable supply of about 2,400 empty railway trucks a week was sent in for loading. During the unloading of the ships 27,000 tons of cargo were put into the Avonmouth sheds and warehouses, but stocks did not increase but were reduced by orders for 57,000 tons of goods being sent out. In early October there was ample storage space at Avonmouth and orders for only 6,000 tons of grain and 2,000 tons of general goods were awaiting delivery. The last three weeks in September showed that with a reasonable supply of railway trucks and with orders for goods in store not being unduly withheld, the Port could adequately deal with the convoy system which would then prove to be far less formidable than those times of "feast or famine" in the years before the war.

The arrival of ships on Government service put little pressure on the Avonmouth Docks in September 1917. The torpedo-boat destroyer *Lyra* put in on the 1st. Between the 2nd and the 9th four hospital ships came in and probably berthed at Shed S to put ashore sick and wounded men to waiting ambulance trains. The Admiralty tanker *Larchol* of 735 tons net that had been launched the month before came in on the 11th and the larger tanker *San Zeferino* of 4,052 tons net came in from Rouen on the 22nd. These would both go to the Oil Basin and thus put no pressure on the general cargo berths. Three freighters of around 2,000 tons net came in, one on the 2nd, the next on the 11th and the last on the 22nd. They brought little or no cargo and came either for repair, for bunkering or to load some outward cargo. There was ample berthing space for them. The most surprising thing about the September shipping at Avonmouth was that only four Government transports arrived either to bring in Government war traffic or to take out motor vehicles and stores overseas to France or to Mediterranean bases. This decline began in July 1917 and the smaller amount of war traffic continued for the rest of the war. In September 1917 only seventeen ships of all classes with a net tonnage of 29,000 tons arrived O.H.M.S. at the three docks of the Port. The four on cargo duty brought in some nine thousand tons and took out about twelve thousand tons of war materials and stores. In the month of September the year before, sixty-three ships of 130,000 tons net had arrived at the Port on war service at a time when neither the larger embarkation ships nor the hospital ships were calling at Avonmouth. The transports of September 1916 brought in no more than 4,000 tons of Government cargo but took out 41,000 tons of war materials and stores. The decline in the trade of the Port after June 1917 would appear to be mainly due to the submarine onslaught that began in February 1917 and the concentration of attack in the western approaches to the Port.

October 1917 began at Avonmouth with ample room in sheds and warehouses although a fair number of orders for goods still awaited despatch. An increase to 2,600 trucks a week for the first two weeks in October soon disposed of all unsent orders for general goods and brought grain orders unfulfilled down to no more than 3,500 tons. October inward cargo at 67,000 tons fell ten thousand tons short of the September trade. There was a slight peak of shipping around the 23rd but even with bad weather and truck dispatch down to 1,800 a week in the second half of October, ample room remained in sheds and warehouses. After October the trade of no month until February 1918 came anywhere near that for September 1917 and the imports at Avonmouth fell to such a deplorably low level that to consider congestion arising from any cause, let alone a clutter from convoys, would be ludicrous. Five ships with 26,000 tons of cargo came into Avonmouth to unload in November 1917, six with 33,000 tons of cargo in December and six with 42,000 tons in January 1918. By then the truck supply was down below 1,500 a week and when on the 24th January the *Swinburne* of 2,736 tons net and the *Thessaly* of 2,703 tons net arrived with 14,462 tons of South American grain the truck supply was quite inadequate and the familiar trouble arose when large orders for grain to be put directly overside into truck could not be met so that away went the grain into store to await the time when empty trucks would arrive in sufficient numbers.

For three months from October 1917 there were therefore steadier days for the hard-pressed traffic staff at Avonmouth. Such relief was not to last long but even so was unwelcome to the casual dockers during the three winter months of November, December and January. Apart from the loss of wages, such slack trade posed a dilemma for those of military age. Dock labour had necessarily become a reserved occupation after the early rush of volunteers into the armed forces in 1914 and 1915, and thereafter there was some drain of labour from the docks by subsequent systems for calling up men of military age. Replacements came into casual dock labour but in the main the new arrivals neither had the experience nor were they of the calibre of the dock labourers who had gone. Reservation however cut both ways. In keeping a docker of military age from military service it also restrained him from taking other employment such as the better-paid jobs in munition factories. The comparatively high rates of pay to attract additional labour of all kinds, and particularly women, into munitions and other work of national importance sent a wave of discontent through other industries in a way that needs no explanation in this present time. During those three winter months of 1917–1918 the pay of the dockers at Avonmouth had through scarcity of work fallen from good takings to lesser amounts that the rising cost of living made look even smaller. We can see therefore how galling it was for the docker metaphorically both from within his dock fence and from over his garden wall to hear the new piano or see the new fur coat upon which the munition worker and his wife spent their new-found income at a time when a few pseudo-luxuries were easier to obtain than items of daily well-being. Such feelings explain much to come which we may still be unable wholly to excuse.

February 1918 at Avonmouth saw a climb back to trade respectability which had already begun towards the end of January. Fifteen ships arrived with about 70,000 tons of cargo and of these ships, five from North America came in between the 13th and the 16th February after which arrivals were few until the end of the month. There was however a chronic shortage of trucks at about 1,700 a week and those readers now fast becoming dock experts will know that this led to congestion in sheds and warehouse owing to ex-ship orders having to be put into store and ex-store orders being delayed until sufficient trucks became available. March slackened off somewhat and although the truck supply did not improve, the warehouses began to clear. Sugar cargoes were arriving from time to time. The *Clan Ross*, 3,757 tons net, arrived from Mauritius on the 5th March with 7,695 tons of sugar which was unloaded in 10 days at an average rate of 771 tons a day. Only 536 tons was unloaded on the first and only 338 tons on the last day while the normal daily rate upon the days between was 867 tons. We get a sense of proportion concerning the landing of cargo in March 1918 by remembering the classic case of Port congestion that ended on the 20th January 1915 by which time the *Spilsby* had taken 31 days to unload 5,358 tons of sugar also from Mauritius, a rate of 173 tons a day as compared with the average of 709 tons of various cargoes unloaded daily from a list of 47 steamers before the war. The *Clan Ross* rate of 771 tons a day was only obtained by employing a larger number of men in hold, on deck and on quay than before the war.

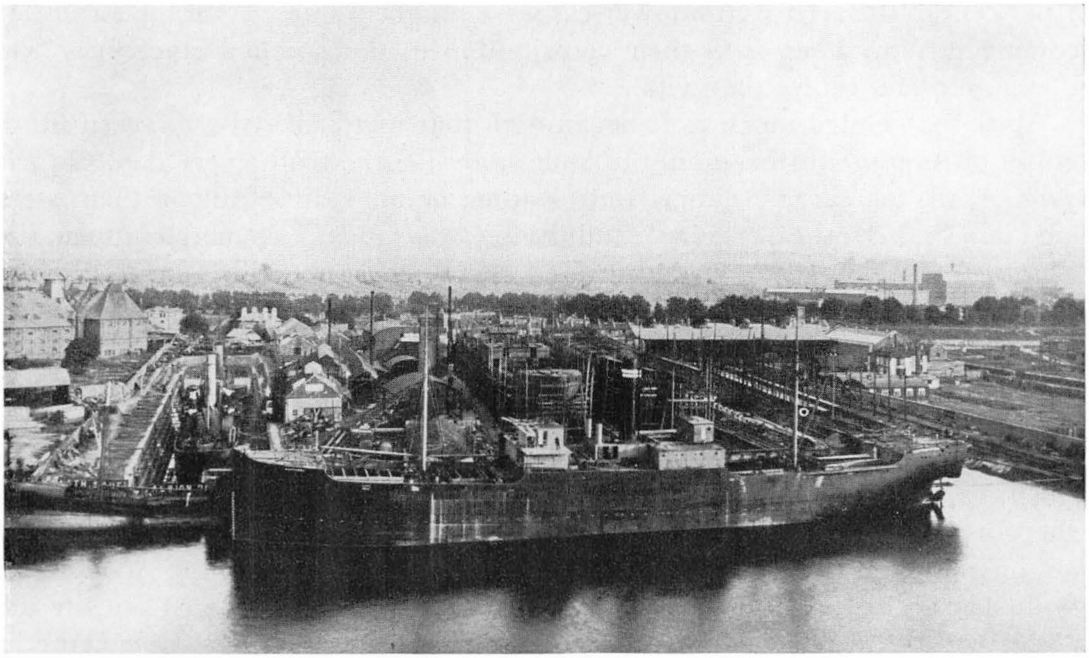
April, the last month of the 1917–1918 Port year, saw a glut of traffic arrive at Avonmouth and was the high-water mark throughout the war of coinciding convoy arrivals. Fortunately there were at the beginning of April only a few ex-store orders not sent off. Such problems were being eased, so far as Avonmouth was concerned, by making good use of Portishead Dock and by sending up to the City Docks some of Avonmouth's smaller ships as well as by sending 31,000 tons of Avonmouth grain up to the Princes Wharf Granary by barge. The middle of March was quiet at Avonmouth but between the 25th March and the 8th April twelve ships with about 70,000 tons of general cargo had arrived. From the Halifax convoy on the 27th and 28th came the *Ascania*, 5,702 tons net, and the *Ausonia*, 5,111 tons net, a not-infrequent visitor to Avonmouth by this time. On the 28th March 1918 the *City of Hankow*, 4,765 tons net, came in off the New York convoy and on the 3rd and 4th of April six ships came in from other North American convoys. An interesting arrival on the 5th April from a destination O.H.M.S. was Elders and Fyffes' *Patuca*, now an auxiliary cruiser, with a cargo of "nuts" destined not for nutcrackers or back teeth but a developing commodity to be crushed for oil at the British Oil & Cake Mills' Avonmouth mill. On the 7th April two more steamers of between 4,000 and 5,000 tons net arrived from North America and on the 8th April eleven large steamers were in the Avonmouth Docks unloading or waiting to do so. Four vessels on Government service were in dock under repair. Submarine attacks often resulted in ships in damaged condition arriving and remaining for considerable repair. On the 8th April there were three large steamers under repair, the *Colonia* of 4,980 tons net that had arrived from Montreal as long ago as the 10th October 1917, the *Montfort* of 4,126 tons net that arrived from St. John on the 4th March and the *Ascania* of 5,702 tons net that came in from Halifax on the 27th March. The *Colonia* remained in dock until the middle of June and the *Montfort* until towards the end of April. Such repairs did much to increase berthing problems when the docks were as crowded as during this first half of April.

Serious problems were now arising for the Port management. On the 8th April it was reported to Docks Committee, "All the sheds at Avonmouth are extremely congested chiefly with bacon, due to the present procedure of the Ministry of Food which delays forwarding orders. A special Officer is coming down this week to investigate the matter. This glut has caused a considerable shortage of labour for the time being." Four ships recently arrived were only partially manned with dock labour to unload the cargoes. The report gloomily proceeded, "Orders of the War Cabinet withdrawing exemptions from Military Service to all dock workers without exception between 18 and 25 years of age will draw about 100 men from our labour supply." A national wage demand was due to come before the Committee on Production on the 18th April and there was a local demand for a five o'clock stop by general cargo workers which the Union did not officially support. Plainly the dock workers were becoming tired of hectic spells followed by several idle weeks and were endeavouring by banning overtime to extend their work to days they feared might be idle.

The Ministry of Food had in fact excelled themselves in the matter of bacon. During the winter the Ministry had bought very heavily in North

America where extremely bad weather, railway congestion and the prior needs of war had prevented the purchases coming to the ports for shipment. In mid-March 1918 the Ministry surprised the Port and Transit Executive by saying that 47,000 tons of bacon was already at sea and the balance of 400,000 tons would shortly be shipped to West Coast ports. Much of the bacon was mild-cured and on arrival either had to go into cold store or had to be cured to a further extent. The Port Executive at once said that port storage, particularly cold storage at the ports, was quite inadequate for such a programme and bacon consignments must be sent inland immediately on arrival. Fayle states that 33,000 tons of bacon came to the ports in March, 77,000 tons in April and again in May and that at the end of May such cargoes were still arriving. Waiting stocks brought the familiar congestion to Liverpool, Bristol, Glasgow and Hull, the turn-round of ships was delayed and the bacon deteriorated. The Ministry had grossly over-bought and their bacon was only saved, as the saying goes, by unusually cold weather well into May and by an increase in the ration. The writer's limited knowledge, at that time, of domestic matters at least extended to knowing that one selective housewife declined to buy any of the "green bacon" for her household.

There were few arrivals in mid-April which was as well since the congestion of the sheds with static bacon was slowing down the unloading of ships that had berthed some days before. An interesting arrival O.H.M.S. was the *War Bittern*, 5,178 tons gross and 3,150 tons net. The Shipping Controller had decided at the end of 1916 to embark upon a massive building programme of standard cargo ships. The *War Bittern* appears to have been one of the "A" type, 400 feet in length with a speed of 11½ knots. The one earlier standard ship to arrive had been the *War Wasp* of only 810 tons net that came in O.H.M.S. on the 9th December 1917; the last to arrive under the "War" name was the *War Suladar* that came in on the 4th February 1921. By then these British standard ships which proved quite suitable for tramp requirements were being readily sold to private owners at home and, as pledged, to our allies abroad to help make good their shipping losses. At the City Docks Charles Hill and Sons built at their Albion Dockyard eight standard merchant ships of a type with a tonnage of about 2,500 tons gross. In the calendar year 1917 the *War Wasp* was the only standard ship to enter the Port. Four such ships of the size of the *War Bittern* came among the 510 other ships that entered the Port from overseas in the calendar year 1918, twenty-four of varying size came in 1919, two in 1920 and one in 1921. By then, however, their war identities had been lost by change of name in the post-war sales. By the end of 1918 about 800,000 tons gross of British standard shipping had been built and at that date about 14,600,000 tons of British steamers of over 1,600 tons gross were available for war or trade. Many of the standard ships came into service late in the year 1918 and so far as the Port was concerned only



THE ALBION DOCKYARD, CITY DOCKS

FROM THE STEEPLY RISING HEIGHTS OF HOTWELLS we have a wide view beyond the Floating Harbour of the Albion Dockyard of Charles Hill and Sons. The photograph was taken in the summer of 1919 when the shipyard was at a peak of activity and employing about 1,500 men. Upon the left is the Albion Dry Dock wherein are two steamers while a third small steamer lies across the entrance.

Passing the yard's workshops and the landmark of the clock-tower, we see the four building berths where three steamers are under construction and in the third berth from the left the keel blocks are being prepared for a fourth steamer. In the Harbour across the front of the building berths lies the *Mackarra*, a standard cargo ship built to wartime specifications for the Australasian United Steam Navigation Company Ltd. This view of the *Mackarra* enables her dimensions to be a visual guide to us when the tonnages of other steamers of similar size are mentioned in this book. The *Mackarra* was 2,515 tons gross, 1,456 tons net with a length of 303 feet, a breadth of 43 feet and a depth of hold of 20·7 feet. The steamer had one steel deck.

Returning to the photograph, we see upon the far left the timber yard of Wickham and Norris, lessees of the Port Authority. They appear to be more fortunate than the timber lessees of the yards upon the far right that are empty enough to reflect the meagre timber imports of the later war years. Between those empty yards runs the approach road from Cumberland Road to Mardyke Ferry and right across the middle distance are seen in full foliage the trees of Coronation Road upon the far side of the New Cut of 1809.

We use this photograph by courtesy of Mr. John C. G. Hill, Deputy Chairman of Charles Hill of Bristol Ltd.

1 per cent of the arrivals from overseas were standard ships. With the Armistice coming in November 1918 their contribution to the national emergency was therefore useful rather than vital.

April 1918 ended much as it began with that mythical red and green lithograph of Avonmouth beginning to look more like the truth every day. On the 22nd April, ten cargo steamers were loading or unloading; among them were auxiliary cruisers, the *Changuinola* and the *Kildonan Castle*. Two merchantmen, the *Turcoman* and the *Mattawa*, that arrived on the 4th were still unloading cargo at the end of April. Two more large freighters were bunkering or repairing and the *Colonia* continued lying up. On the 20th the hospital ship *Makeno* arrived and on the 21st the hospital ship *Gascon*. The requisitioned *Edinburgh Castle*, 570 feet in length, came in on the 23rd with general cargo. The *Australbrook* of 4,336 tons gross and 2,802 tons net, came in from Fremantle, Western Australia, on the 24th but sailed up Severn to Sharpness Docks without discharging cargo. Another hospital ship, the *Wandilla* of 7,785 tons gross, arrived on the 25th, and next day the *City of Madras* from Bombay and the *North Pacific* from Alexandria came in, probably from a Gibraltar convoy. Then on the 28th April three more cargo steamers including the regular *Welshman* came in from a North American convoy. There was a shortage both of labour and railway trucks so that the unloading of the *City of Madras* and the *Welshman* was not completed until the 13th May. Nevertheless, throughout the second half of April the arrears of ex-store orders were small, but owing to the falling off in the daily arrivals of empty trucks many ex-ship orders had to be put into transit sheds and held over into May. This shortage of trucks on the quay to receive goods direct from ship slowed down the unloading of cargo so that the daily output fell quite noticeably. A ship took days longer to unload and labour had to work at a slower rate instead of being freed for other ships.

There is no doubt that throughout the war years this shortage of rail transport that had a near monopoly of inland distribution was the prime cause of congestion at the Port, except at those times when either the military unduly occupied transit sheds or importing Government departments blocked the Port sheds and warehouses as in April 1918 with goods for which no delivery orders were forthcoming. The ships arriving from convoys at the Port of Bristol after September 1917 only caused traffic undulations rather than peaks and the major reasons for such delays and inconvenience as occurred were those just mentioned. Without those basic causes the Port facilities and the labour supply would in general until late in 1918 have been adequate to deal with both the portions of the convoys and with Government shipping of all kinds that came to Avonmouth.

XXI

1915–1918:
The Refinery

A MILE along the Somerset coast from the mouth of the River Avon, Portishead Dock was in every year of the war much busier than before the war. In the last Port year of peacetime up to the 30th April 1914 there had been unloaded or loaded at Portishead 172,000 tons of overseas and coastwise cargo. In every Port year that ended during the war the trade cargoes alone came to around 300,000 tons. In September 1917 Portishead gave appreciable relief to Avonmouth. An interesting arrival at Portishead on the 7th was the *Salient* of 2,419 tons net with 5,300 tons of timber from the Russian White Sea port of Archangel. Three weeks earlier 4,000 tons of timber had come from the same port in the *Agenoria* of 1,931 tons net. But timber was one of the staple trades of a dock equipped as our plan shows with a Timber Wharf over 500 feet long and with ample open stacking ground and open-sided sheds for storing timber behind the wharf. More than this, however, Portishead received in September two steamers bringing 13,062 tons of general cargo. The Portishead entrance was 472 feet long and 66 feet wide with a depth of water on the lock sill of 34 feet at high water of ordinary spring tides and 24 feet at high water of ordinary neap tides, subject to a plus or a minus according to wind and weather as explained in an earlier chapter. In depth of water the Portishead lock was 12 feet less fortunate than the Royal Edward Dock, 4 feet less than the Avonmouth Old Dock and only 1 foot better off than the Cumberland Basin entrance at the City Docks. This limitation in size of lock did not prevent some use being made of Portishead Dock to relieve pressure upon Avonmouth.

Nor did the 13,000 tons of grain and general cargo brought to Portishead in September 1917 cause undue problems as to storage there, since across the water from the Timber Wharf lay a straight run of about 1,700 feet of quayage. Upon this quay were transit sheds of a sort with railway lines back and front. Rail traffic to and from Portishead Dock was the exclusive preserve of the Great Western Railway Company by reason of their single-line track to Bristol. Behind the Port transit sheds lay Portishead Granary, a floor granary linked to its four elevator towers on the quay by four overhead galleries with travelling bands for the flowing grain. Portishead Granary like the granary in Avonmouth Old Dock had upper storeys with wooden floors. These appreciable fire risks, since grain can dangerously overheat in ship's hold or granary, were a source of unease to the Port Secretary to whom fell among much else the responsibility for the adequacy of the Port's many insurances and, worse still, for any non-insurances whether by calculated design or otherwise. The Port Secretary slept soundly at nights, if he did, by seeing that in time of rising prices as in the 1914–1918 war the insured value of these choicer risks, not to mention the more humdrum risks, were currently brought up to their risen values. Fire insurance managers eased their minds by putting up the premiums on fire risks such as the two granaries and if the tablets of memory still read true the rate on those two buildings was 7s. 6d. per cent at a time when house property was insured against fire for 1s. per cent and many dock transit sheds for around 3s. per cent. As often, the Sons of Unease were to be found looking in the wrong direction.

There were busy scenes at Portishead Dock in September 1917 during the landing, storing and sending away of the cargoes of timber, grain and general goods, but no undue delay occurred in despatching goods when ordered. In June 1908 the Anglo-Saxon Petroleum Company had brought the bulk oil trade to Portishead by leasing three acres of Port land south-east of the lock in order to erect storage tanks into which could be pumped motor spirit direct from tank steamers. The site is shown on the 1913 plan of Portishead Dock at the end of this book. The petroleum for the installation came mostly from the Far East and arrived in steamers that carried petroleum in bulk, a method that was replacing the earlier practice of shipping oil in barrels. On the 31st May 1909 the first tanker with oil for the installation arrived. The *Washington* of 4,171 tons gross and 2,659 tons net had a length of 354 feet, a breadth of 45 feet and came from Pulo Samboe, Borneo. Built in Stettin in 1894, the *Washington* was owned by the Deutsch–Amerikanische Petroleum Company of Hamburg. The next overseas tanker to arrive was the *Telena* that came in from Pulo Samboe on the 24th November 1909. The *Telena* was one of several ships owned by the Anglo-Saxon Petroleum Company but many of the ships arriving within the next few years were of foreign ownership, thus reflecting the cosmopolitan arrangements already developing within the oil industry. From the Port Arrival Book it appears that these were the only two steamers from overseas to arrive at the installation in the Port year that ended on the 30th April 1910.

The Annual Report for the Port year 1910 shows that 10,004 tons of mineral oils came into Portishead Dock that year. Meanwhile Avonmouth was far ahead of Portishead with an overseas import of 70,948 tons. The City Docks received 14,257 tons of oil but it was a lead over Portishead that the ancient harbour was only to retain for one more year. By the Port year 1914 the City Docks annual import of oil had fallen to 12,880 tons, the Avonmouth share had risen to 118,126 tons and into Portishead there had come 22,843 tons in eleven tankers.

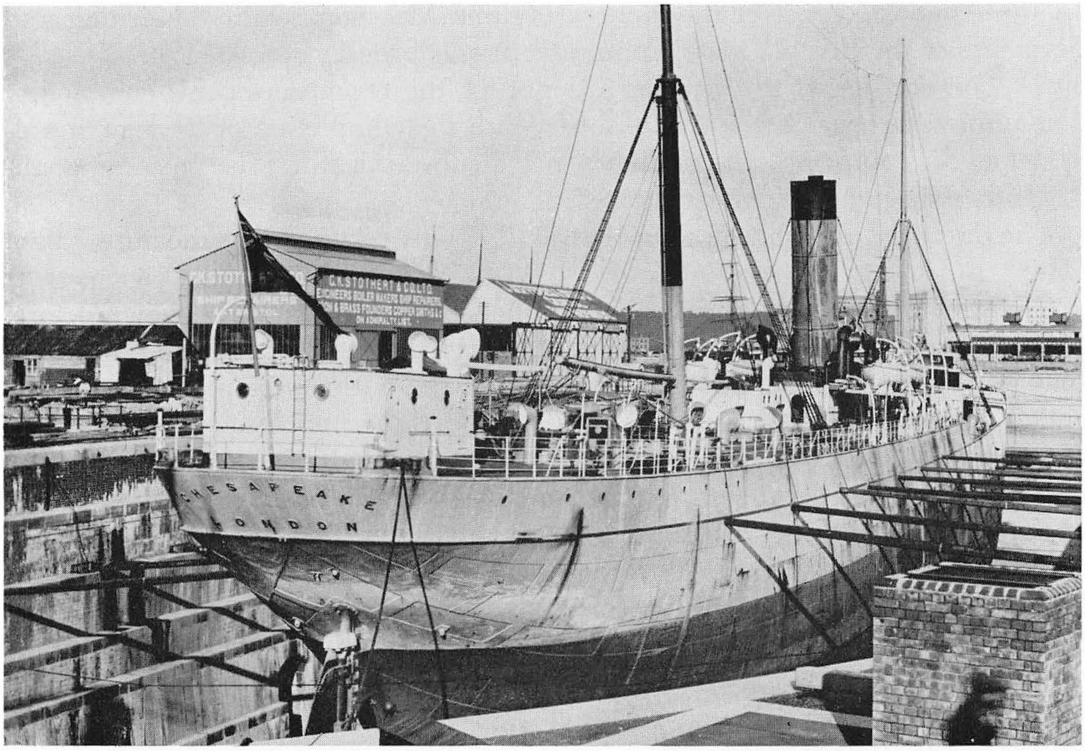
In the Annual Report of the General Traffic Manager to the Chairman and Members of the Bristol Docks Committee it was proudly recorded:

> "The prestige of this port as a depot for the reception of this commodity may now be regarded as established. With the completion of the new installations in course of construction a more substantial increase may be confidently expected in the near future".

The date of Ross-Johnson's report was thirty-five days before the outbreak of war.

The war brought to Portishead Dock a degree of prosperity not known before. Perhaps Portishead was going at last to show its peacetime potential in the way that the Royal Edward Dock was doing. But the outlook for prosperity at the end of the 1914 Port year was limited to the three imports from overseas of 98,000 tons of grain, 32,000 tons of timber and 23,000 tons of mineral oil. The lock remained too small for the growing size of new ships, the grain facilities were out-of-date and the oil trade was based on one installation. However, an unusual event even in this war profited the Portishead Dock. In *Bristol and the Great War*, published in 1920, Stone and Wells recorded in their chapter on "Industry and War Supplies" that for some months after 1914 the Government relied upon coal tar residuals from gas works as the substance from which to obtain the toluol necessary for making the high explosive T.N.T. The supply proved insufficient for the needs of modern war. Then oil interests offered to supply from Borneo a type of crude petroleum from which toluol could be extracted. There was however no refinery in this country of a design to carry out the process. The Shell oil interests had such an installation at Rotterdam and took the great risk of dismantling their refinery there and shipping it to England. Stone and Wells seem to indicate that the installation was shipped direct into Portishead, but no ships entered Portishead dock from Rotterdam at that time although the Bristol Steam Navigation's *Argo* of 1,052 tons net made eight voyages there from the City Docks in the first half of 1915 and their *Apollo* of 1,112 tons net made one similar voyage in March 1915. The *North Somerset Gazette*, that excellent neighbourhood paper published at Clevedon, gave an interesting article on Portishead history in their issue of the 11th May 1973, wherein it was said that the dismantled Rotterdam refinery was shipped to London under escort of destroyers and then sent by rail to Portishead for rapid erection.

As early as October 1914 the Asiatic Petroleum Company informed the Port that they had entered into a contract with the War Office to supply petrol to the military. This was being done in 2-gallon cans but for shipment two 4-gallon cans were to be packed in timber cases. Machinery for the manufacture of new cans was being urgently sent to a temporary building near the Portishead installation. Tin plates would come from Swansea from time to time and caseboards from Norway. On the 26th January 1915 the Government High Explosives



THE S.S. CHESAPEAKE

TODAY IT IS DIFFICULT TO BELIEVE that we are looking at the photograph of a steamer that regularly carried petroleum in bulk. The *Chesapeake* of 4,521 tons gross and 2,886 tons net, 370 feet long and 47 feet wide with two steel decks, arrived at Avonmouth on the 22nd June 1910 with a cargo of oil from New York. The Anglo-American Oil Co. Ltd. owned forty-five ships for the trade at that time. The *Chesapeake* was built at Glasgow in 1895 when oil was carried by sea in barrels. The steamer was probably converted for carrying oil in bulk around 1907. After this visit to the Royal Edward Graving Dock the steamer sailed for Singapore on the 28th July 1910.

We note the way the ship is shored up in dry dock. The Bristol ship repairers, G. K. Stothert & Co. Ltd. and J. Jefferies & Sons Ltd., have already set up their premises in a strategic position on the Port Authority's land alongside the dry dock. In the distance across the Royal Edward Dock there is an empty berth at Shed P and north of the shed we can see the top of the masts of the S.V. *Hyderabad* already shown in previous photographs.

Department guardedly informed Ross-Johnson of a contract with Anglo-Saxon Petroleum for more tankage at Portishead. Two days later a top man from the Asiatic Petroleum brought "a gentleman from Rotterdam" to meet R. H. Jones at Queen Square and the refinery project was discussed. On the same day Asiatic Petroleum placed an urgent contract with the Bristol firm of John Perkins to erect the refinery. By the 12th February the Great Western Railway advised the Port that 150 tons of Government machinery would be arriving on the Dock sidings at Portishead for the refinery in course of erection. This machinery had come to the Royal Albert Dock, London, from Rotterdam. On the 18th February fifty men of the 5th Devons came to guard the refinery. All this time steel plates and other constructional materials were coming in by rail from other parts of the country. Building a conveyor to take cases of petrol cans direct from the refinery to transports lying at the dolphins was now begun. The ships for taking this traffic to France were cargo ships of about 2,500 tons net and some 350 feet in length such as the *Beethoven*, *Trevilley* and *Mokta*, ships of the First Movement that had continued to make voyages from Avonmouth to France.

By the end of March 1915 Perkins the contractors told the Port their work was likely to be finished in May and during the 10th May the conveyor worked about 2,000 cases holding 4,000 4-gallon petrol cans. Hand labour had already been at work on this task and their output was 8,000 cases a day. No doubt, said R. H. Jones, the output of the conveyor should improve with use, but to get a good loading rate four of a ship's hatches should be working at once whereas the conveyor only brought the cases to two of a ship's hatches. It was October 1915 before plans were made to improve the conveyor so as to bring a thousand cases an hour to the ship. Throughout the war, even when the submarine peril came to a crisis, the neutral ships of Norway traded to and from our ports and the Norwegians who lost many ships should be remembered in our gratitude even yet. On the 1st April 1915 the *Arnold*, 704 tons net, 231 feet in length and under the management of the Bratt Company, left Gothenburg with 200 standards of timber in the form of 40,000 cases of caseboard for the petrol cans. The ship arrived at the Port on the 15th April and was followed by the *Consul Bratt* and the *Adolf*. By midsummer the War Office had practically appropriated the Timber Wharf at Portishead for loading petrol and the average loading by hand labour in twenty-four hours was from six to seven thousand cases. On one occasion when the *Mokta* had five hatches and plenty of gear available 8,500 cases were put aboard. At and around the installation and the refinery nearly ten acres of land leased or unleased were now out of the possession of the Port. The *North Somerset Gazette* recorded in their 1973 article that the can manufactory was turning out 8,000 petrol cans a day and that in the early part of the war 70 per cent of all the petrol used by the British Expeditionary Force was being sent from the Portishead installation.

In April 1917 a Government Committee visiting British ports came to review conditions at the Authority's three docks. Among much else, Ross-Johnson told them that the filling works at Portishead Dock were able to maintain a day-to-day output of about 30,000 petrol cans which was well in excess of the daily loading capacity of a ship. The Petroleum Company could only store some 30,000 tins within their own area.

> "The difficulty of the Petroleum Company is plain. When a ship is not in and their storage accommodation is exhausted they are naturally unwilling to close down temporarily and allow their labour to drift away."

This led to the practice of the War Office in allowing stacks of filled petrol tins to be made on the ordinary Dock area near timber stacks and near railway lines on which coal-fired Dock locomotives were shunting. The visiting Committee used the shelf upon which so many complaints come to rest: "Representation shall be conveyed to the proper authority." Whether or not these risks were remedied, the Sons of Unease were still looking in the wrong direction since the only petroleum mishap of note at Portishead, apart from an unexplained explosion in the bunkers of the transport *Stork*, 1,291 tons net, while lying at the oil berth in May 1916, had already taken place aboard the steamer *Afon Lliedi* a month before the arrival of the Government Committee.

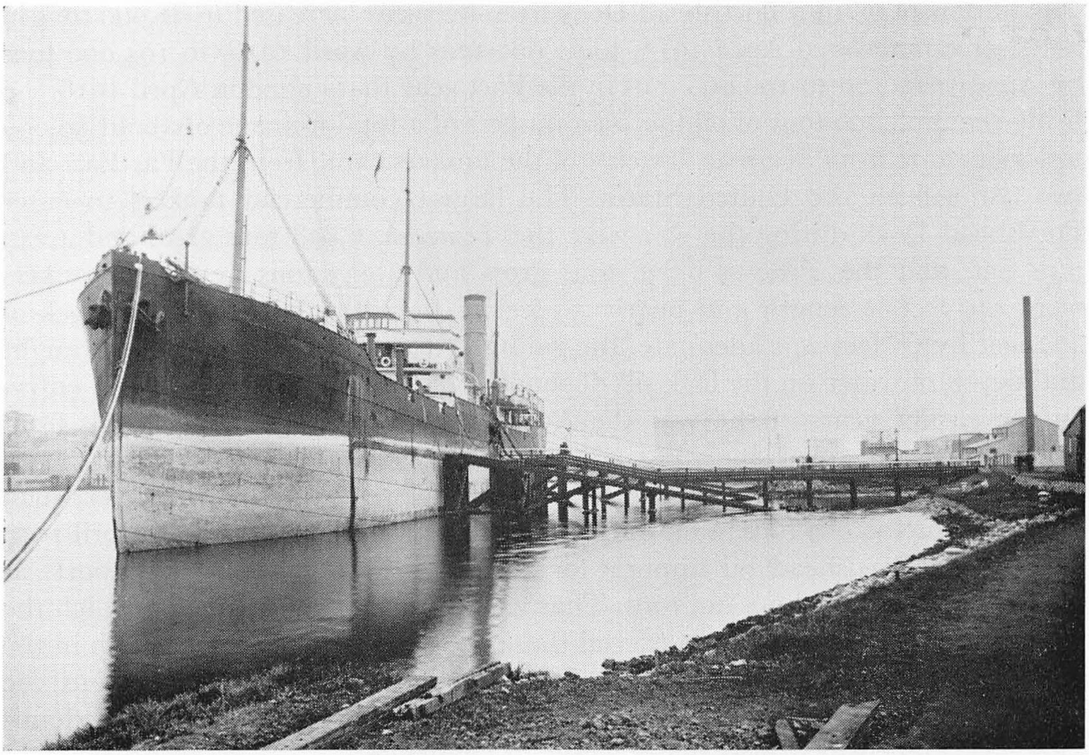
On the 15th March 1917 the *Afon Lliedi*, a small cargo steamer of 610 tons net and 215 feet in length, arrived from Havre to load petrol in cases. By the 19th loading was completed and the *Afon Lliedi* was about to sail. Then an explosion occurred in the shaft tunnel. Two men were blown overboard, the shaft decking was set alight and the breakage of gauge glasses in the engine room caused a great discharge of smoke and steam. The Dockmaster with Dock foreman Jefferies and other Port employees linked a fire hose to a water main, poured water into the engine room and eventually brought the hose to the door of the shaft tunnel and put out the flames. They also recovered from the tunnel the body of a man who had been killed by the explosion. It appears he had gone into the shaft tunnel with a naked light instead of using the Davy lamp provided, the type of lamp invented by Sir Humphry Davy wherein the flame is surrounded by wire-gauze to prevent contact with explosive gases outside the lamp. It was a frightening experience for those in the vicinity. The explosion could have blown up the ship and showered burning debris into this hazardous locality to turn the neighbourhood into a Vulcan's forge. It was the 5th April before the *Afon Lliedi* returned from her interrupted voyage to Calais.

Much of the prosperity that came to Portishead Dock in the war years flowed in with the oil that went along the pipelines to the Anglo-Saxon installation and the Shell refinery. For the erection of the refinery and for additional oil tanks two and a half more acres of Port land were leased to the Anglo-Saxon Company in February 1915 and another three and a half acres in the following October.

The import of oil into Portishead Dock from overseas increased to 32,000 tons in the twelve months to April 1915, to 92,000 tons by April 1916, to 104,000 tons by April 1917 and to 108,000 tons in the Port year that ended in April 1918. To bring that 108,000 tons of oil fourteen tankers of a total tonnage of about 50,000 tons net came from overseas. Twelve of the tankers came from the Far East and two came from the United States. The largest commercial tankers to enter Portishead Dock during the war were the *Tecumseh*, 6,828 tons gross and 4,247 tons net, and the *Tacoma*, 6,836 tons gross and 4,233 tons net. Both tankers were 440 feet in length and nearly 59 feet in breadth and though the lock of 472 feet by 66 feet was adequate, the ruling factor would be the ship's draught and depth of water on the lock sill dependent on height of tide at time of entry. In the earlier years of the war the Avonmouth imports of mineral oils from overseas did not, surprisingly enough, increase by more than about 5,000 tons a year over the imports of 118,000 tons in the 1914 Port year. Moreover, such imports fell to 99,000 tons in the twelve months that ended on the 30th April 1917 so that the Portishead oil imports for that year exceeded the oil imports at Avonmouth by five thousand tons. That was the first and last year in which the Portishead oil imports were to exceed those at Avonmouth since although in the Port year 1918 the oil imports at Portishead increased to 108,000 tons the Avonmouth imports went ahead to 169,000 tons to give Avonmouth a predominance that Portishead was never again to challenge.

At Portishead in September 1917 we have already noted the arrival of the *Salient* with 5,300 tons of timber from Archangel and of two steamers with over 13,000 tons of grain and general cargo. The oil installation at Portishead Dock was replenished on the 13th by the arrival from Singapore of the Anglo-Saxon Petroleum's tanker *Arca* of 4,839 tons gross and 3,053 tons net. Built at Palmer's yard, Newcastle, in 1912 the *Arca* had brought oil to Portishead in 1913, 1914 and 1915. The steamer was to arrive safely from her voyages ending here and elsewhere until the 6th January 1918 when she was torpedoed in the English Channel but reached a port. The *Arca* arrived again at Portishead from Philadelphia on the 10th July 1918 under the command of Captain Welch. On the 2nd of October 1918 the *Arca* was torpedoed without warning and sank forty miles west of Tory Island off the north coast of Donegal with the loss of fifty-two lives including the Master. This last voyage of the *Arca* could have been to or from Barrow-in-Furness, Lancashire where the Government set up a second refinery to produce toluol. Stone and Wells recorded in 1919 that during the war the Barrow refinery produced 11,600 tons of toluol, whilst 18,500 tons were produced at Portishead together with a large quantity of xylol for the manufacture of explosives by the French.

The sinking of the oil tanker *Arca* with the loss of fifty-two lives reminds us sharply of the risk seamen faced in bringing such dangerous and essential



S.S. *Telena* AT PORTISHEAD DOCK

THE S.S. *Telena* is discharging bulk oil by pipeline along a jetty to the oil tanks of the Anglo-Saxon Petroleum Company. The portable line hangs over the side of the ship and connects with permanent lines along the jetty and thence to the oil installation.

This method replaced the traditional import of oil in barrels and necessitated new Port Bye-laws for such cargoes.

The *Telena* was built in 1895 at the shipyard of W. Gray & Co., West Hartlepool. With a length of 375 feet, a breadth of 48 feet and a depth of hold of 30 feet, the *Telena* had a tonnage of 4,778 tons gross and 3,124 tons net. In February 1902 she was fitted for liquid fuel. Of steel construction the steamer had machinery aft and was lit by electric light.

Owned by the Anglo-Saxon Petroleum Company the *Telena* made only two arrivals at Portishead, once on the 24th November 1909 from Pulo Samboe and again on the 18th July 1913 from Singapore. The *Telena*, defensively armed, was sunk by torpedo without warning 170 miles west of Fastnet on the 21st April 1917. No lives were lost.

The photograph believed to be taken in 1913 shows in the background the boiler-house and stack and more distant the tanks of the Company's installation.

cargoes to our ports. A petroleum ship whether empty or full was a high risk in face of submarine attack. From the time when the Germans began a definite campaign of attack on merchant shipping in February 1915 until the end of the war, tankers mostly from the Far East arrived at Portishead Dock on fifty-five occasions. Fifty of those voyages were made by twenty-nine different British tankers none of which was a regular visitor. All these steamers would have made as many voyages as possible elsewhere. Not one of them is rated in Lloyds 1917 Register as travelling at 12½ knots or over and a voyage from Portishead to the Far East and back took about three months. From the British Government's 1919 List of British merchant shipping sunk or attacked by the enemy we are able to trace the war damage experience of those twenty-nine British-owned tankers, all of which were defensively armed at the time of attack. Fourteen of those tankers are not recorded as being attacked during the war. Only the *Arca* was sunk. Fifteen were attacked by submarine, four of them on two occasions. Of the nineteen attacks two took place in 1916, nine in 1917 and eight in 1918. Eight of the tankers were attacked in the Mediterranean, three in the English Channel, two north and one south of Ireland and one out in the Atlantic. Then as we come nearer home, two were attacked off the Scillies and two in the Bristol Channel.

It would be unwise to base general conclusions on so small a sample, but one would have thought, or perhaps feared, that more than one of these tankers would have been sunk during their wartime voyagings. However, a definite surprise awaits us upon considering the eighteen attacks upon the tankers by submarines that failed to sink their targets. Three of the steamers fought off gun attacks by gunfire. On five occasions the torpedo missed. On the ten other occasions the tanker attacked was actually torpedoed. Seven reached port, two were towed in, and one was beached. From these nineteen attacks we could read the chance of an armed merchantman confronted by an attacking submarine as being eighteen to one in favour of escape from being sunk. Unfortunately the general experience was not so. The Government's 1919 list shows that during the war 2,099 British merchant vessels were sunk by German submarines. The number of British merchant vessels damaged or molested but not sunk by such attack was 1,727. But some of these vessels were attacked and survived on more than one occasion and when we have worked out the actual number of these failures to sink the ship attacked, we find that on average throughout the war the chance of escape for a British merchant ship attacked by a German submarine was, in racing terms, even odds. There should be a reason other than random chance for the much more favourable wartime experience of those tankers that occasionally came to Portishead with their vital cargoes, but we can only suggest, without evidence, that the petroleum tankers were perhaps specially escorted at the more dangerous stages of their voyages.

To return to the export of petrol to the Army overseas, the Asiatic Petroleum Company told the Port late in September 1915 that it was improbable the Admiralty would send any more ships of similar size to the *Beethoven* or *Mokta* to Portishead for such traffic. No reasons were given but we can see that with the growing shortage of shipping for longer voyages overseas it was a misuse to keep steamers of 2,500 tons net on the short sea routes to France. Already from the beginning of August in 1915 smaller steamers mostly between five hundred and one thousand tons net had begun to take over voyages from Portishead Dock to French ports on the Atlantic coast. Despite the veil of secrecy as to the destination of many voyages it would seem that as many as ninety voyages of these smaller steamers taking out petrol from Portishead were made in the first eight months of 1916. Then came another change. Only thirteen such outward sailings took place in the last four months of 1916 and the outward petrol traffic from Portishead seems to have kept at about that level in 1917 and to have fallen even lower in 1918.

By the time Ross-Johnson made his Annual Report to the Docks Committee on the 1st September 1919 he was able to make some brief comments on the direct war efforts of the Port.

> "Portishead Dock was for a long time a main depot for the supply of petrol spirit for mechanical transport and aviation purposes in England and France. The tankage accommodation was greatly extended, and large refining and canning establishments were installed. The work of discharging bulk spirit into the tanks and loading case spirit into transports was carried on day and night. During the war period the imports in bulk amounted to 116,000,000 gallons, and the export of the case and bulk spirit to 72,000,000 gallons. Large consignments of petrol were also despatched by rail to inland centres."

XXII

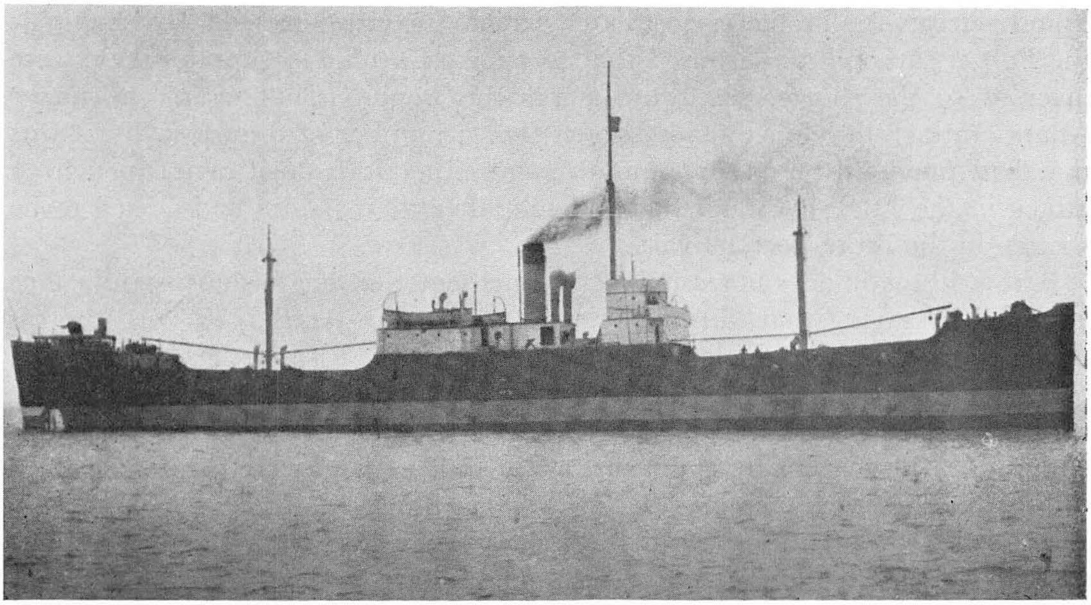
1917–1918:
Of Danger and Decline

THE enemy sank nearly nine hundred and fifty of our merchant ships in the twelve months up to the 30th April 1918. With the sinking of those ships 5,440 lives were lost. This huge loss of British merchant shipping added up to nearly 3,200,000 tons gross. Our overworked shipyards and our purchases of ships abroad brought no more than 1,300,000 tons gross of merchant shipping to our aid. With these terrible losses of ships and inward cargoes there inevitably came a steep decline in the trade of the Port that year. Only 315 ships with a net tonnage of 814,000 tons came in from overseas and they brought no more than 1,168,000 tons of trade cargo. The tonnage of shipping was less than the year before by 27 per cent and the weight of cargo by 21 per cent. Even war traffic declined at the Port. There were no more than 257 arrivals of war transports either bringing or taking 377,000 tons of war materials and stores. The year before there had been 561 arrivals to bring or take 489,000 tons of the materials of war. This serious decline in trade at the Port leads us to look at the state of the nation's inward trade from overseas.

The volume of the nation's inward commerce is recorded for the twelve months to the 31st July 1918, a period that ended three months later than the Port year we have been considering. In the year to the end of July 1918 there came from overseas into the ports of the United Kingdom 34,569,000 tons of trade cargo brought by shipping adding up to 22,467,000 tons net. That showed a national decline of 15 per cent from both the inward trade shipping and the cargoes from overseas during the year before. We have noted that the decline in such cargoes at the Port in the year that ended on the 30th April 1918 was 21 per cent, but when to get a true comparison with the national figures we add up the imports at the Port for the years that ended on the 31st July 1917 and 1918 we find that the Port decline in overseas cargo in the later year was 28 per cent as compared with the much smaller national decline of 15 per cent. This undue decline at the Port calls for some explanation after we have very briefly looked at the plight of the coasters.

Although it was the search for ocean-going steamers that brought the U-boats so close to our shores, coasters large and small also came under attack. This was at a time when cargo was being sent by coaster whenever practicable to ease the burden on railways. It was not only the actual loss of coasters that threatened to disrupt the port-to-port seaward routes, but also the unwillingness of owners of goods to risk their scarce commodities by sea at a higher cost in freight and war insurance as compared with railway rates that the Government had restricted to former levels. To remedy this situation all coastal shipping was placed under the control of the Ministry of Shipping whose powers were not so much directly exercised to ensure adequate cargoes of the kind required on the route required as observed by owners on request to avoid more drastic action. All the same, the tonnage at United Kingdom ports of coastal arrivals that before 1914 had reached over 37,000,000 tons net, had for the year that ended on the 31st July 1918 fallen by 18 per cent to 17,300,000 tons from the figure of 20,900,000 tons in the previous year to the 31st July 1917. The amount of coastal cargo carried in and out of the ports of the kingdom in those years is not known. During the Port year to the end of April 1918 coasters came in 4,676 times, that is, no more than about thirteen a day. Their arrivals added up to 493,000 tons net, about a quarter less than during the previous Port year, and their cargoes in and out came to 938,000 tons, 9 per cent less than the year before. Unfortunately coaster losses by enemy action were not usually replaced since shipyards were fully employed upon naval needs and the vital replacement of ocean-going steamers.

The decline in coaster trade was largely in consequence of the downward trend in trade coming into the Port from overseas. Furthermore, many coasters were sunk as the German submarines baulked by the deep-sea convoys moved inshore. The sharper decline in overseas trade at the Port as compared with that at all the ports of the United Kingdom has yet to be explained. From within the Port no complete answer can be given because beyond our obvious answers lie unanswered questions concerning Government control of imports as well as military and naval strategy in the matter of sea routes. Moreover, a trade decline at a large port in peacetime is often beyond the power of an efficient management either to prevent or completely explain. The figures for shipping or commodity declines may be marshalled plainly enough but the finding of some of the more obscure reasons can be quite another matter. It is obvious that the loss of ships and cargoes by submarine attack caused most of the decline in the seaborne commerce of the kingdom. The heavy cost of buying war supplies overseas and our much decreased export earnings also restricted the amount of money available for trade purchases abroad. The less fortunate experience of the Port seems largely due to the concentration of enemy attack upon the Western Approaches through which must come the bulk of our supplies from the American continent. Again, Avonmouth was clogged from time to time with an excess of Government imports for which delivery instructions were withheld. Accordingly ships were diverted to ports where shed and warehouse space could be found for their cargoes. We remember that for weeks in August 1917 the Shipping Controller found it necessary to divert from Avonmouth all cargo ships heading there



S.S. *War Damson*

THE *War Damson* was the third of eight standard cargo steamers built in the Albion Dockyard of Charles Hill and Sons to the specifications of the Shipping Controller. Built in 1918, the steamer was of 2,503 tons gross and 1,452 tons net. She was 303 feet in length with a beam of 43 feet. Her speed was rated at 10 knots. Although the shipyard was at this time in a state of transition with the installation of up-to-date plant and machinery, the steamer was completed within thirty-three weeks from the laying of the keel plate. This photograph is one of five shown in this book by courtesy of Mr. John Hill.

from overseas. As for the even greater decline in transports and war traffic at the Port it can only be surmised that to safeguard military supplies these were diverted to the shorter sea route across the English Channel as the heavy Atlantic attack developed. It is known that a number of the cargo transports that had previously used Avonmouth were either torpedoed or escaped from attack in the English Channel some while after their names had ceased to be written in the list of Port arrivals.

Bare arithmetic does not usually stir much emotion nor is sharp significance achieved by saying that during the year to the 30th April 1918 Port imports from overseas fell from the low level of the year before by a further 317,000 tons to 1,168,000 tons. To those of us who knew something of this decline it was as sinister as finding in the mealhouse that our sack of flour full overnight was now, without lawful use, less by about one-fifth. In fact things were to become more sinister than we then feared. The Port's wheat intake that year was the less by 111,000 tons, a quantity for which a stack of a million 2-cwt sacks would not suffice. Among the other grains, incoming barley was 74,000 tons the less, maize 50,000 tons and oats 19,000 tons less than the year before. So the animals shared our deprivation and thereby was lost much meat and dairy produce. It may be remembered that in the ten weeks up to the 4th August 1917 there had come into Avonmouth twenty-two grain ships with cargoes averaging 5,900 tons apiece. With ships carrying this size of cargo, a decline of 257,000 tons of grain of all kinds during the Port year 1918 meant that there had been an economy of forty-four inward voyages in the use of such grain ships entering the Port from overseas. The grain and flour imports into the kingdom in the calendar year 1918 were only 6,839,000 tons against 8,718,000 tons in the calendar year 1917 so that the drop of 1,879,000 tons meant that there was probably a saving of over 300 inward arrivals at the ports of the kingdom for the grain trade alone.

Yet all was not decline. A record import of flour, less bulky than whole grain, did something to repair the Port's loss of wheat but nothing to make up the loss of other grain to feed our herds. Never before had so much as 285,000 tons of mineral oil been brought into the Port in any year. The 16,000 tons of frozen meat, all at Avonmouth, was also a record import, but there the tally of increase almost ends. The 84,000 tons of sugar brought in during the Port year 1914 had by the year to the 30th April 1918 dwindled to under 30,000 tons, and timber had dramatically declined from around 170,000 tons in the 1914, 1915 and 1916 years to a mere 34,000 tons. Throughout the war the imports of bacon, butter, cheese and lard had been kept near or over the 1914 figure of 34,000 tons, and the Ministry of Food's glut of "green" bacon kept the sum of those provisions up to that figure.

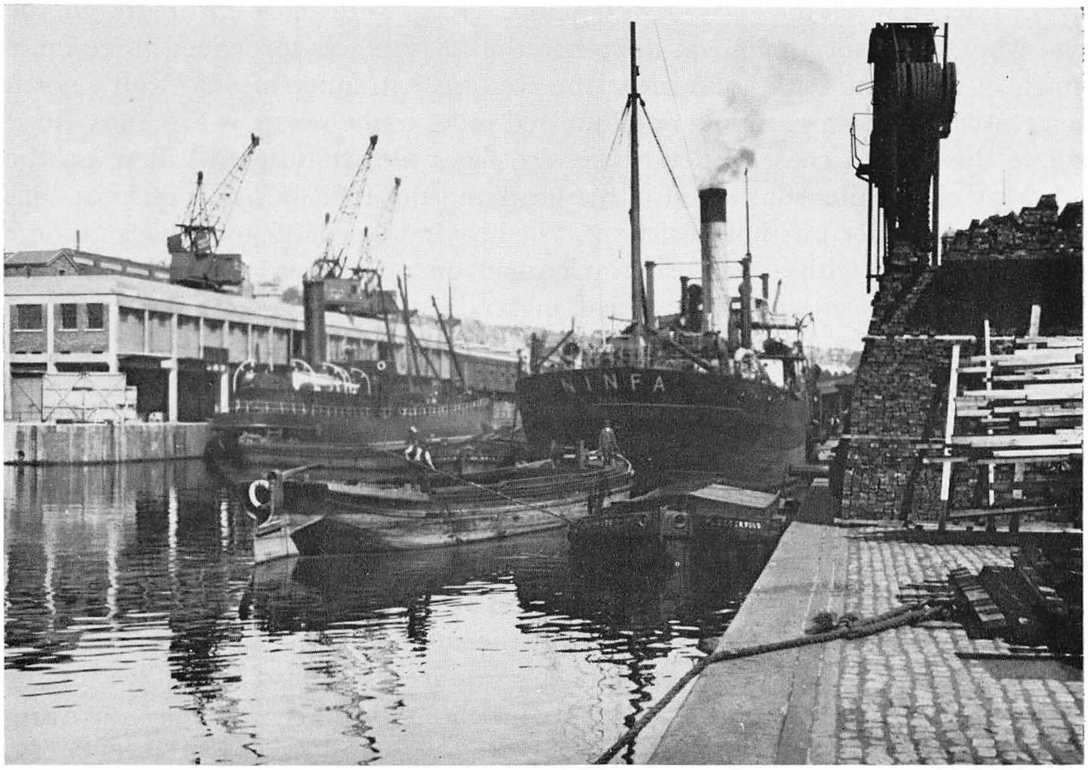
Amid those massive losses, little pleasures were sadly lost. Currants for our buns and cakes were gone entirely from Port lists that had held 3,483 tons thereof the year before. Lucky were those who cracked their Christmas nuts, for only 800 tons arrived to replace the 2,600 tons of the previous Port year. Bananas disappeared from the fruit bowl since only 140,000 stems came out of hold in the first three months of the 1918 Port year as against the three million stems or so that Elders and Fyffes brought for us in the Port year to the 30th April 1914. The taste for oranges from Spain was also curbed by the arrival of only 91,000 cases against the quarter of a million or more that had usually arrived since 1907. Indeed a record 348,795 cases of oranges arrived in the Port year 1916 and was no doubt part of a diplomatic gesture of thanks for the iron ores that came from Spain. We leave unsolved the mystery of the lemons. Why, when in the Port years 1914, 1915 and 1916 the trade of the Port in lemons had been no more than 627 and 297 and 351 cases respectively, did the annual import for the Port year 1917 rise to 28,104 cases and amount to 7,830 cases in the Port year 1918? It was certainly nothing to do with an incoming flood of gin, since the Port statistics attached to the Annual Accounts up to the 30th April 1918 solemnly record the arrival of one dozen bottles against the 6,715 dozens, presumably from Holland, in the Port year to the 30th April 1915. Wine in 1,331 pipes and 404 dozen bottles sank to about one-third of former volume, but the quality of noontide goblets of rich port drunk at Peck's beneath the clash of victorious bells from the spires and towers of our City churches on the 11th November 1918 can even now be vouched for. Rum, that traditional import of eighteenth-century Bristol, had long since sunk to a trickle and in the two years 1917 and 1918 not a puncheon came. But there was brandy yet, 133 puncheons and 5,762 dozens, though but a sixth of the 1915 trade.

We sober ourselves by recording that in the Port year 1918 only 507 tons of memorial marble were slowly lowered in slabs on to the City quays and that was about one-sixth of such imports in normal times. Paper at 1,754 tons and wood pulp at 648 tons offered no hope to scribes of more pages for the shrunken newspapers. Seven tons of glass, in place of about two thousand tons before, made mock of breakages. Of the losses mentioned and of many unmentioned, perhaps the most significant was that even iron and ores, those grim necessities of war, were in that disastrous year down by one-third from the 60,000 tons brought in the year before. And yet if we look hard at the Port statistics we can see that all was not loss. Onions that came in cargoes adding up to over 6,000 tons a year in 1915 and 1916 increased to over 9,600 tons in each of the Port years 1917 and 1918, perhaps with the intent of making the Ministry of Food's bacon somewhat delectable.

In April 1918 for the first time since early in the war the shipyards of the world, led by the vast American effort in building standard ships, overtook and began substantially to pass world shipping losses including those of Britain. Our losses in April 1918 from all forms of enemy action had amounted to seventy-two ships of 276,000 tons gross and in May to sixty ships of 192,000 tons gross. The losses of other maritime nations were about half the British losses. Any easy optimism concerning the rate of shipbuilding that allied shipyards had at last achieved was tempered by the thought of how long it would take to make good the vast extent of those merchant ships losses the shipyards had for so long been unable to replace.

As we move on the first of May 1918 into a new and forbidding Port year we remember that within the past grim twelve months the unrestricted submarine campaign against our ships had grown to a peril only partly curbed by the convoy system from September onwards. Then the October Revolution took place in Russia in 1917 and by March 1918 German forces released from the Eastern Front were able to aid the German offensive that bulged dangerously through British and French defences towards the Channel ports. Amid all this a small pennant fluttered defiantly. On the 23rd April, the patronal day of St. George, the day when Shakespeare's birth in 1564 and death in 1616 is remembered, the day of Rupert Brooke's death off the Dardanelles three years before, upon that day in 1918 the Royal Navy covered landing parties of the Royal Marines to sink old British cruisers in the harbour entrances to the German submarine bases at Zeebrugge and Ostend. The Germans had greatly used these bases for attacks on shipping in the English Channel, the Bristol Channel and in the Atlantic south of Ireland. The bases were not entirely closed but at the same time anti-submarine minefields and other devices in the Straits of Dover and in the Heligoland Bight caused U-boats to make much more use of longer northabout routes. After her declaration of war against Germany in April 1917 the United States of America massively geared her industry to war purposes and began to send naval forces and her armies to Europe, but in April 1918 the situation for Britain remained a race against defeat.

During May 1918 another fifty-nine of our merchant ships were sunk by submarine and with those ships 407 lives were lost. The gross tonnage of the sunken ships was 189,000 tons, slightly less than the average of the months from the previous September. Seventy-four other British ships that month had been damaged or molested but not sunk when attacked by German submarines. Seven British steamers were sunk within the Bristol Channel. Along the coast of North Cornwall the *Polbrae*, 1,087 tons gross, was sunk on the 4th May a mile and a half from Sharpnose Point that lies a few miles north-west of Bude and south-west of Hartland Point. Halfway down the north Cornish coast, Trevose Head near Padstow remained a danger spot with the sinking of the *Girdleness*, 3,018 tons gross, about eighteen miles north-east on the 2nd May and of the *Tagona*, 4,181 tons gross, five miles to the west on the 16th. Farther south-west and only three miles from St. Agnes Head the Canadian Pacific's *Princess Royal* of 1,986 tons gross was sunk without warning on the 26th with the loss of nineteen



THE NARROW QUAY, CITY DOCKS

THE NARROW QUAY is one of the cobbled City quays and lies upon the eastern side of St. Augustine's Reach. It extends from the end of the Broad Quay to Bush's Corner where the waters of the Rivers Avon and Froom quietly merge. The two quays together had a length of about 1600 feet from St. Augustine's Bridge in the year 1900. The Broad Quay could be said to have a length of about 600 feet at that time and dates back in one form or another to the thirteenth century. The Narrow Quay seems to have grown from a number of various developments, such as small docks and yards, finally settling down into quayage by a number of additions of much later date both by the Corporation and to a greater extent in the eighteenth century by the Society of Merchant Venturers. It was not until the beginning of the nineteenth century that the waters of the Harbour were retained so as not to be tidal twice daily.

It was no unusual sight in modern times for the Narrow Quay to be piled with timber in the way now shown. Removal was easy along the cobbled highway behind the quay. The water scene was typical of the daily barge regatta along this reach.

The steamer *Ninfa* is of particular interest. America came into the war in April 1917 and this steamer, built that year at Wyandotte near Detroit, Michigan, is one of the early examples of an American standard ship of which in various sizes very many were rapidly built, in the way of American genius, to offset the German submarine peril. Originally named *War Major* the steamer was 1,902 tons gross and 1,229 tons net, 251 feet long, 48 feet in breadth with a depth of hold of 18 feet. By 1920 the steamer had become the *Ninfa* of Naples.

lives. The crew of the *Thorsa*, 1,319 tons gross, were more fortunate on the 2nd May since not a man was lost when the steamer was torpedoed three miles north of Pendeen Lighthouse near the western extremity of Cornwall's north coast. Across the water, about one hundred miles to the north, is St. Anns Head where the broken coast of Pembroke also faces the Atlantic and there on the 9th May eight miles south-west of the headland the 1888 *Wileysike* of 2,501 tons gross was torpedoed without warning. The heaviest loss of life took place at some unknown point within the Bristol Channel on or around the 7th May. All twenty-four aboard were lost when Langland's 1907 *Princess Dagmar*, 968 tons gross and 362 tons net, was torpedoed. Before the war the *Princess Dagmar* had traded from Sheds C and D on the Welsh Back to ports on the north-east coast of England and Scotland. Five ships escaped from attack within the Bristol Channel in May 1918. On the 8th the small wooden schooner *Camborne*, 93 feet in length, built in 1884 at Amlwch in Anglesey and owned there by Thomas Morgan, fought off a submarine by gunfire. On the 15th the *War Grange* of 3,100 tons gross was beached after being torpedoed, but five lives were lost. The Hain Line's *Trelawny* that came to the Port during the First Movement was missed by torpedo on the 22nd and on the same day the steamer *Crosshands*, 716 tons gross, beat off a submarine by gunfire. The last attack within the Bristol Channel that month took place on the 27th when the *Pembroke Coast*, 809 tons gross and 354 tons net, was, like the *Trelawny*, missed by torpedo. So within the Bristol Channel in May 1918 seven steamers with a total gross tonnage of 15,060 tons were sunk by submarines and fifty-nine lives were lost. Five ships escaped though five lives were lost aboard the *War Grange*.

The frequent attacks during May by German submarines in the Bristol Channel were reflected in the arrival of only seventeen merchant ships bringing cargo into the Port that month from overseas. The ships had a net tonnage of 42,000 tons and the trade cargoes they brought amounted to only 83,000 tons. Thus the 120,000 tons of overseas cargo for April had fallen back in May to the low average of the four months before April. Of the eight medium to large freighters at Avonmouth six came from North America and two from South America. At the City Docks Charles Hill's *New York City* under the command of Captain Carey came in from New York on the 17th May and the *Chicago City* and the *Wells City* also made routine arrivals from that Port. The Bristol City Line had by now been reduced by war losses to four steamers, namely, the *New York City*, *Chicago City*, *Wells City* and the *Exeter City*. Not another of those four ships was to come into the Port from across the Atlantic again until the *New York City* entered from New York on the 30th December.

At Avonmouth in May 1918 ships on war service outnumbered the ships of commerce. Several large ships "On His Majesty's Service" made the Royal Edward Dock look for a while like the embarkation days of 1915, but nine of those ships were painted white and bore the great signs of the Red Cross. Hospital ships made little demand on dock labour. Six freighters that had arrived in the last few days of April continued to be unloaded in May owing to a shortage of dock labour. A request might have been made at this time for men from the Transport Workers Battalion, but Ernest Bevin as Union representative strongly opposed such action on the grounds that it would cause bitter feeling among the dockers. The last two April freighters did not clear their heavy cargoes until the 13th May at the average rate of about 500 tons a day. From the 15th to the 25th May six more cargo ships arrived at Avonmouth. On the 24th the Orient Steam Navigation's *Orvieto*, 12,130 tons gross and 553 feet in length, now an auxiliary cruiser, came in with "cargo stowed in abnormal places" and took until the 2nd June to discharge at the low rate of 250 tons a day. On the 27th May the largest ship of all that month, the Royal Mail's 1913 *Andes*, 15,620 tons gross, 9,481 tons net, 570 feet in length and also an auxiliary cruiser, brought in cargo stowed in abnormal places and took until the 6th June to discharge at an average rate of 209 tons a day.

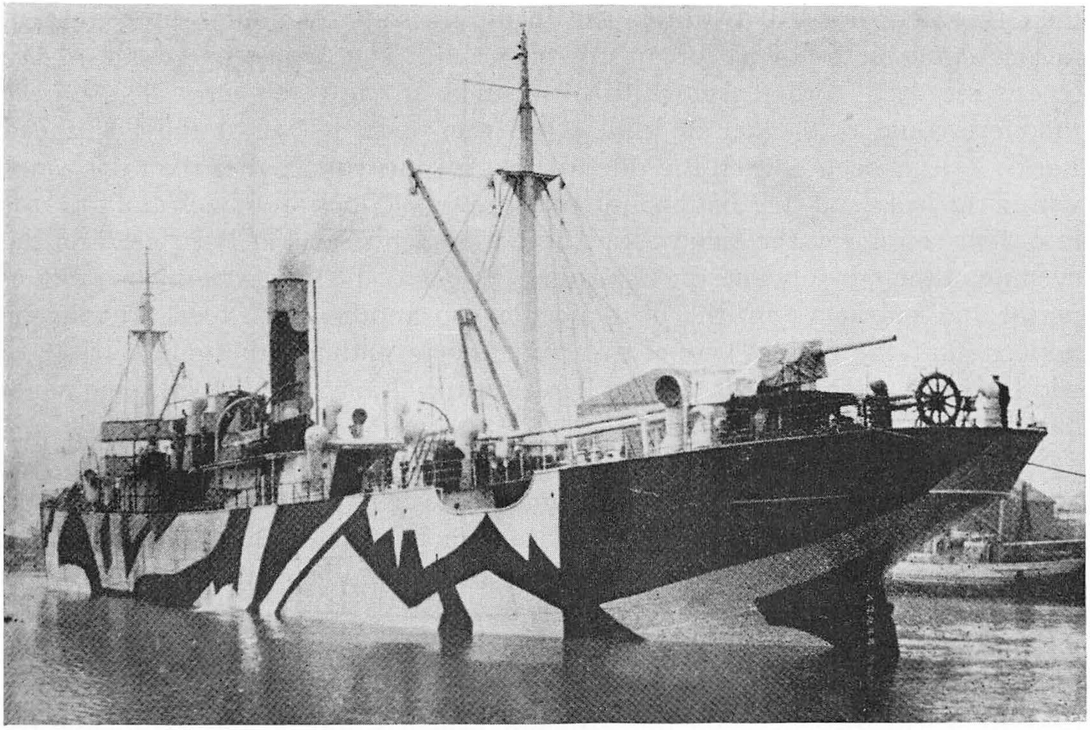
A greater tonnage of our merchant shipping had been sunk by German submarines in May 1918 than in September 1917, the first month of the regular convoy system. It might be wondered, therefore, how far the attack on the Zeebrugge and Ostend entrances was to prove effective. The May losses by submarine attack of fifty-nine ships at 189,000 tons gross were however by ten ships and 30,000 tons gross less in June. The many incidents in the Bristol Channel during May declined in the next month to only three attacks there by submarine. On the 8th of June the *Saima* of 1,147 tons gross was torpedoed without warning ten miles west of Trevose Head and sixteen lives were lost. Six miles north-west of the headland the *Hunsgrove* of 3,063 tons gross was also sunk that day with loss of three lives. Both the *Hunsgrove* and the *Huntsland* of 2,871 tons gross had made regular runs as cargo transports between Avonmouth and France up to the end of 1916. Two days before the sinking of the *Hunsgrove* on the 8th June the *Huntsland* was torpedoed in the English Channel twenty-three miles north-west of Havre. Back in the Bristol Channel on the day after the sinking of the *Hunsgrove*, the 1880 wooden schooner *Queen Victoria*, 92 tons gross, owned by Fred Griffin of the cathedral city of Salisbury, was captured by a surfacing submarine and sunk by bombs six miles south-east of Lundy. No more attacks were recorded in the Bristol Channel that month. The incident that overshadowed other sinkings of British merchant ships that month took place on the 27th June out in the Atlantic 116 miles west of Fastnet. The hospital ship *Llandovery Castle*, 11,423 tons gross, had left Avonmouth in May to repatriate wounded Canadians and was on the return voyage to the Port. The ship was torpedoed without warning and 146 of the nursing staff and crew lost their lives.

June 1918 brought little consolation either to Port Authority or to dockers.

No cargo came from overseas until the 10th. Throughout the month only eighteen ships of 51,000 tons net came in with 64,000 tons of trade cargo. No more than eight ships arrived on Government service to bring 8,600 tons and take away 5,000 tons of war materials and stores. Portishead had one ship with 1,500 tons of grain from Liverpool. The City Docks had two steamers from Valencia, one from Genoa and another from Havre. The City Docks and Portishead had many idle days in June though a good many men found work at the City sheds and quays where in the last three weeks of June there came the greater part of 25,000 tons of cargo that had been loaded into barges and coasters at Avonmouth. For war traffic and trade from overseas June 1918 was the poorest month of the war at the Port.

Four hospital ships had entered the Royal Edward Dock during June 1918 and five more came in during July, but after that no more came to the Port. The first hospital ship to arrive was the *Rewa* on the 19th February 1917 and the last was the *Boonah* of 5,926 tons gross on the 21st July 1918. During that time there were sixty-four such visits by hospital ships and about 24,000 wounded or sick men were disembarked either to waiting ambulance trains or to ambulances. In all, 250 ambulance trains took them away to inland hospitals from the south side of the Royal Edward Dock and from the dock there also went about 13,000 convalescents outward bound for Canada, Australia, New Zealand or South Africa.

July cargoes at the Port were also at a low level and many dockers were left kicking their heels. It is true that 24,000 tons of petroleum, four times the June amount came in, but linking pipelines did not require a labour force. The slumps in overseas cargoes during these two months foreshadowed what was to come. Already on the 28th June a stoppage of two and a half hours had happened during the unloading of the steamer *Francisco* because a man had been arrested for theft and, to make weight, it was alleged a military sentry was on duty in the shed over some military stores. Meanwhile at Portishead where the lock was 472 feet long and 66 feet wide, the steamer *Cuyana* owned by the American Naval Department docked on the evening of Friday the 5th July. The *Cuyana* with a tonnage of 7,608 tons gross and 5,120 tons net had a length of 483 feet and a beam of 49 feet. The steamer was too long to lie within the inner and outer lockgates which when closed point obliquely inwards to resist the pressure of water within them when the level of sea-water is lower than the water within. If the tide is somewhat lower than the water within the locks, a ship of lesser length than the distance between the inner and outer lockgates can be let in by lowering the water within the lockgates to the level of the water without, so that after the opening of the outer lockgates the ship can enter and have those outer gates closed behind her. The water within the inner and outer lockgates is then made level with the water within the dock itself and the inner lockgates may



S.S. *New York City*

This cargo liner was built at the Albion dockyard in 1917 by Charles Hill and Sons for their Bristol to New York service. Her tonnage was 2,757 tons gross, 1,622 tons net with a length of 311 feet, beam 42·8 feet and depth of hold 23·6 feet. Her rated speed was 11 knots. The steamer first returned to the Port from New York on the 17th May 1918. The photograph shows her in dazzle paint, a type of camouflage adopted in the later war years in an attempt to baffle any German submarine about to make a torpedo attack. Where experts differed as to its effectiveness, how dare we pronounce? Perhaps our faith would have been better placed in a good look-out and the defensive gun here shown. This photograph is reproduced by courtesy of Mr. John Hill.

then be safely opened to admit the incoming ship. A similar procedure in reverse could be followed for an outgoing ship. The *Cuyana* by reason of her length required both lockgates to be opened at the same time. The *Cuyana* therefore could only enter or leave when there was a level at the Portishead Locks. A level occurs when the tide without is somewhat higher than the water within the locks and thus has enough pressure to fold lockgates back and inwards into their recesses in the lock walls. There was such a level at Portishead on the evening of the 5th July and the *Cuyana* was able to come in, discharge 650 tons of petrol and sail at 5 a.m. the next morning on another such level. It may be noticed that the *Cuyana* was of greater tonnage and length though of lesser width than the commercial tankers *Tecumseh* and *Tacoma* mentioned some pages back.

Submarine attacks upon merchantmen in the Bristol Channel during July 1918 were limited to the ten days from the 14th to the 23rd. The *Orfordness* of 2,790 tons gross was torpedoed two and a half miles west of the Cornish holiday resort and fishing harbour of Newquay on the 20th and three days later the *Anna Sofie* of 2,577 tons gross was torpedoed further up the coast four miles west of Trevose Head. Of the three ships that escaped, the *Trevisa* of 1,813 tons gross was missed by two torpedoes on the 14th, the *Harlseywood* of 2,701 tons gross was torpedoed on the 17th but beached and on the 23rd Palgrave Murphy's 1880 *City of Cork*, 1,301 tons gross and 251 feet in length, was also missed by a submarine that fired two torpedoes at her. Thirty-seven British merchant ships of 165,000 tons gross were sunk by submarines during July. In August forty-one ships were similarly lost but their gross tonnages were less at 146,000 tons and that month's toll of our merchant ships was less than a half of the eighty-four ships of 311,000 tons gross sunk during August the year before. Only the *Clan Macnab* of 4,675 tons gross was sunk in the Bristol Channel during August 1918 some fourteen miles north-west of Pendeen Lighthouse. The ship was torpedoed without warning on the 4th and twenty-two lives were lost. No fewer than five other steamers survived attack within the Bristol Channel. On the 1st both the *Neto* of 1,696 tons gross and the *Kirkwood* of 1,674 tons gross were missed by torpedo. On the 2nd the *War Rambler* of 5,495 tons gross was missed by two torpedoes. There came a pause until the 16th when a torpedo failed to hit the *Islandia* of 2,069 tons gross and three days later when the *Charity* of 1,735 tons gross was torpedoed, the steamer managed to reach a port.

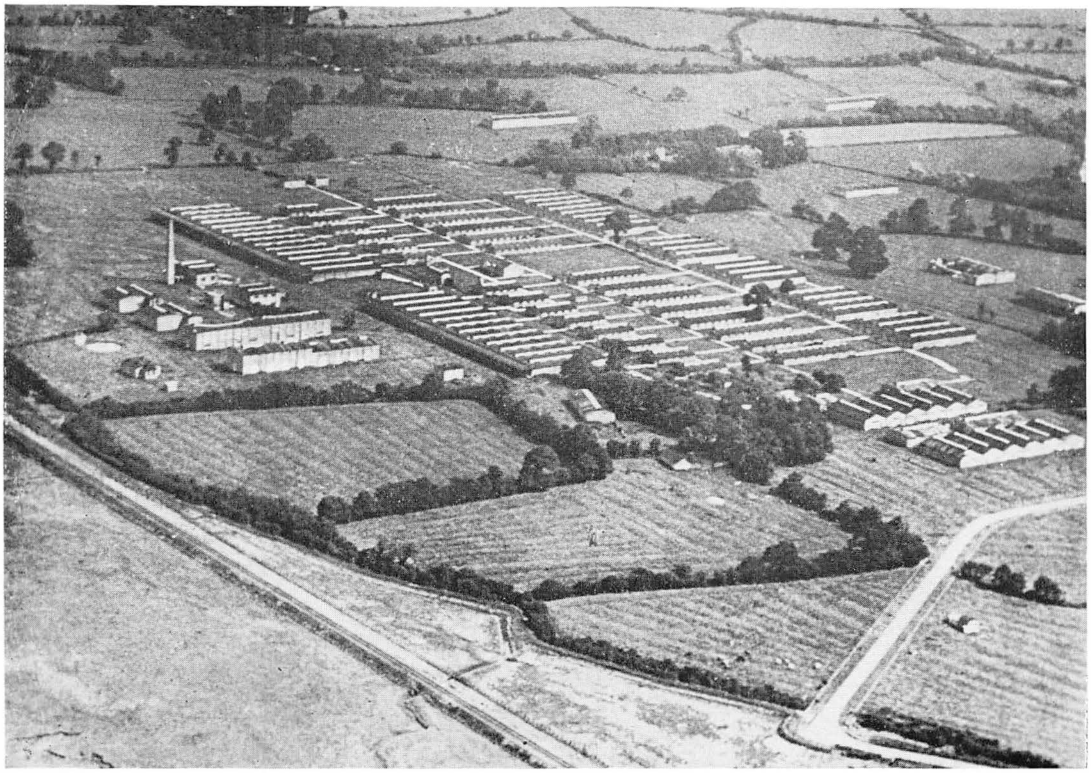
The twenty-eight overseas ships entering the Port in August measured 67,000 tons gross. They brought 88,000 tons of cargo and made the month something of the Port's traditional harvest home with about 57,000 tons of grain. All other commodities from overseas thereby fell to about 31,000 tons compared with the July total of 66,000 tons of cargo of which only 14,000 tons was grain. During the greater part of August there was not enough work for dockers at Avonmouth, but early in the month there was for various reasons a shortage of labour. Then for the first time during the war, men from the Transport Workers Battalion were drafted into the Port. The circumstances and the consequences of this move deserve consideration immediately after the present chapter which now moves briefly through the three remaining meagre months of the war.

September 1918 saw a flare of activity in the Bristol Channel such as an almost spent candle gives before it gutters out. On the 6th of the month Tintagel Head, the legendary haunt on the Cornish coast of King Arthur and his chivalrous knights, reverberated to the torpedo explosion that sank two miles away the steamer *Milly* of 2,964 tons gross. The remaining nine events fell within the ten days from the 15th to the 25th. On the 15th the *Bondicar* of 1,441 tons gross was missed by a torpedo. The German submarine then appears to have moved up for a last and successful patrol near Trevose Head. The *Madryn* of 2,244 tons was fortunate in that her sinking on the 16th five miles north of the headland cost no lives. The same day eleven miles south-west of Trevose twenty-five lives were lost when the *Acadian* of 2,305 tons gross sank after being torpedoed without warning. On the 17th the same number of lives were lost when five miles south-west of Trevose lighthouse the Cardiff *Lavernock* of 2,406 tons gross was sunk. When the steamer *John O. Scott* of 1,235 tons gross was sunk on the 18th nine miles north-west of Trevose eighteen lives were lost. The Masters of the *Madryn*, the *Acadian* and the *John O. Scott* all lost their lives. But on the 18th the *Holmpark* of 1,468 tons gross escaped when the torpedo missed and so similarly next day did the *Cognac* of 819 tons gross. On the 21st September the *Polesley* of 4,221 tons gross was the last ship to be sunk by German submarine in the Bristol Channel. It happened without warning far down the Cornish coast one mile north of Pendeen lighthouse. Thereby the lives of forty-three men including that of the Master were lost. The last attack of the war by German submarine within the Bristol Channel took place on the 25th September 1918 when the *Roselands* of 4,383 tons gross beat off the pursuing submarine by gunfire. In the month of September 1918 forty-eight British merchant ships with a gross tonnage of 137,000 tons were sunk by German submarines. October saw such losses fall to twenty-three ships of 55,000 tons gross. In the following days up to the Armistice on the 11th November the only sinkings of our merchant shipping by German submarine took place on the 2nd near Port Said when two steamers, each of about 5,000 tons gross, were destroyed.

At the Port in September the overseas imports of 94,000 tons showed a slight increase over the 88,000 tons of August except that grain relapsed to 31,000 tons and petroleum took the lead at 33,000 tons. There were not only labour shortages but the rate of work was unsatisfactory. A railway strike from the 24th to the 26th resulted in no trucks being available. Nor were passenger trains available on the

24th to bring dockers down to Avonmouth and Portishead from Bristol where the great majority lived. By next day the Road Board had found road transport for all the men needed at Avonmouth and Portishead as well as for about 2,000 munition workers in the Avonmouth area. Orders for goods in store at Avonmouth began ominously to accumulate. Over 20,000 tons of goods went away from Avonmouth mostly to the City Docks in small coasters and in barges and this double or treble handling contributed to the labour shortage Ross-Johnson had foreseen. October imports from overseas at 90,000 tons were much the same as the tonnages of August and September. Grain headed the month's imports at about 44,000 tons and petroleum followed at 17,000 tons. And now to add to troubles in delivering grain came a new cause of delay, an acute shortage of sacks. How fortunate then that there should be a slump in traffic during the last fortnight of October. At least the arrears in the delivery of goods were kept in check but the lack of shipwork did nothing to ease the restlessness now evident in dock labour. However, small coasters and barges made about 230 October trips to take 32,000 tons of cargo out of Avonmouth. Thus there would be additional wages for dockers at the City Docks without cost of railway fares to Avonmouth or Portishead. Grain in bulk in barges could be elevated into the Princes Wharf Granary or into Spillers' Redcliff Granary so far as space was available but otherwise would lie in barge until sacks could be found.

In the last six months of the war from the 1st May to the 31st October, 1918 overseas trade at the Port sadly declined. Only 135 ships of 320,000 tons net arrived to bring imports of 499,000 tons and take out exports of 33,000 tons. In the six months that ended on the 31st October 1917 there had arrived 176 ships of 428,000 tons net bringing 638,000 tons and taking 63,000 tons of cargo. The removal of so much cargo from Avonmouth kept up the coaster trade to much about the 1917 level. From May to October in 1918 there were 2,351 arrivals and the coasters brought in 294,000 tons and took out of the Port 175,000 tons of cargo. It was again a tale of decline throughout nearly all the staple trades. Grain at about 200,000 tons compared with a trade of 300,000 tons in the corresponding six months of 1917. Flour and meal at 38,000 tons in the 1918 period kept near the 1917 figure. An exception to the downward trend was the 47,000 tons of provisions, with much bacon from North America. This tonnage compared with only 27,000 tons in 1917 and 23,000 tons during the similar months of 1913. Even petroleum imports declined to 95,000 tons in those last six months of the war against the 141,000 tons of the half-year in 1917, so that the Port was nearly back to the six-monthly oil import of 89,000 tons in 1913. Only 453 tons of sugar was imported during the 1918 half-year as compared with 8,500 tons in 1917 and the 43,000 tons of refined sugar from the Continent in the corresponding six months of 1913. Bananas at 140,000 stems were scarce in 1917 and off the menu in the wartime part of 1918. In the six months of 1913 Elders



H.M. Factory, Chittening

Already by 1913 the foreshore lands of the Port Authority stretched nearly a mile and a half northwards from the Royal Edward Lock to the southern side of muddy Holesmouth Creek some fifty yards wide. Here the tide-washed turf of Port lands had a varying width of about one hundred yards or more. The turf was of a quality for bowling greens it was never destined to reach. Bounding those Holesmouth warth lands ran the Great Western lines that promptly curved inland to Filton and onward to London while a single line ran on by Severnside towards the Severn Tunnel. Sixty yards inland from the railway lines the wide St. Andrews Road from Avonmouth village culminated in a cul-de-sac. In short, the land surrounding the Royal Edward Dock was hemmed in by railway and road to the east and by Holesmouth Creek to the north.

Rather more than half a mile to the north of the Creek near where the railway lines forked for Filton to the east and the Severn Tunnel to the north, the Government late in the war built the munition factory set among green flat fields that stretched away at much the same low level through the Severn Vale towards Gloucester. In the right-hand corner of the photograph there is seen the new approach road to the factory from the end of St. Andrews Road and in the left corner the warth lands that continued to the north of Holesmouth Creek. In 1919 the Port had more than enough to do without looking north over Holesmouth Creek.

and Fyffes' steamers had brought in 1,600,000 stems. Bananas, somewhat overripe it is true, could be bought four a penny off the barrow boys in the middle of Bristol before the war. Two for a penny was then the more sedate price for better-kept bananas at the fruiterers. Less than 11,000 tons of timber came into the Port between May and October 1918 against 19,000 tons and 135,000 tons in the same periods of 1917 and 1913 respectively. War traffic through the Port showed an even greater decline than commerce. One hundred ships of 197,000 tons net took in and out 85,000 tons of war materials and stores in the last six months of the war against the 142 ships of 229,000 tons net that carried 213,000 tons of war cargo from May to October in 1917. The arrival of 4,561 horses and mules was less than a quarter of those that arrived in the same six months of 1917. It is easy to see that the dockers would become restless at the lack of full employment and we turn to consider their reaction when men from the Transport Workers Battalion came to work in the Port in August 1918.

XXIII

August, 1918: The Transport Workers Battalion at last arrives

As far back as December 1916 the Government had authorised the forming of a Transport Workers Battalion of up to ten thousand men who would be drafted into ports as need arose. The central Port and Transit Executive, set up in London late in 1915 to oversee the general working of the ports, had appointed a Special Committee at each large port to decide when the help of the Transport Workers Battalion should be sought. At Bristol the Port Chairman, Alderman Twiggs, represented the Port, Ernest Bevin represented the Dockers' Union and a naval and a military embarkation officer made up the Special Committee's membership of four. Ross-Johnson came to the scene nominally as secretary. Long before July 1918 men of the Battalion had been working at many ports but despite times of labour shortage there had been no call from the Special Committee at the Port of Bristol.

The months of May and July 1917 had been pressure points at the Port for the use of the Battalion and two extracts from the proceedings of the Special Committee at that time are of interest. First, from the meeting of the 4th June, 1917:

> "Mr. Bevin stated that the Union would resist the calling in of the Transport Workers Battalion under any circumstances because of the conflicting orders of Government Departments in regard to the recruiting of Transport Workers whilst holding Port Labour Certificates, because temporarily employed on Munition Works; of the difficulty of keeping labour together in the absence of any retainer for men idle during slack periods; and that the Shipping Controller had not taken the Unions into consultation in connection with the orders issued by his Department."

And from the meeting on the 13th July 1917 when Mr. Garmston represented the Union in the absence of Mr. Bevin:

> "Alderman Twiggs explained that from the returns of the Secretary of the Employers' Labour Association there were 2,838 men engaged on the 11th of July and 3,114 on the 12th, as compared with 2,510 on the 19th May and 2,610 on the 26th May when the previous question of shortage arose.
>
> These figures do not include the carters or men engaged by the engineering firms at the Dry Docks, but compare with the available labour supply of

> 3,617, leaving about 500 men unaccounted for. Mr. Garmston stated that there would be about 200 men employed by the various small employers, including those who were at present employed in the various fruit warehouses, in addition to which he had about 200 men on his sick list records, showing that practically all the available labour was engaged."

We thus come upon the fact that in the summer of 1917 the number of casual dock labourers available at the Port was 3,617 men. This seems a large number of men for the greatly diminished trade of the Port by July 1917 and indeed it was. The apparently excessive reservation of men at a time when man-power was so urgently needed elsewhere was brought about by the Ministry of Shipping's directive that the normal number of men engaged in unloading and landing cargo should be greatly increased to shorten the time a ship spent in port. Doubling the number of cooks is by no means a sure way to improve the broth, nor did the increase in Port manning scales yield a proportionate quickening in the turn-round of ships as any dock foreman could have foretold. A large number of the Port's regular dockers had joined the Forces early in the war and many more had subsequently gone. Their replacements too often had neither the physique nor the cargo-handling experience to keep up to normal outputs. We also gather that an appreciable number of transport workers holding Port Labour certificates went off to other work, particularly to the highly-paid munition factories that like Doctor Barnado's orphanages had ever open doors for new arrivals. It is likely therefore that from the summer of 1917 onwards a number of dockers were more profitably and more regularly otherwise engaged. On the 22nd April 1918 Ross-Johnson told the Docks Committee that 54 young dockers between the ages of eighteen and twenty-five had now been taken for military service although previously exempt and another 183 men "engaged in transport work" at the Port would shortly be taken.

There were several other reasons for the shortage of labour. Bad weather in July and August 1918 slowed down considerably the unloading of cargoes, a number of which were general cargoes with many different kinds of goods. To overcome the heavy loss in the mercantile marine the available ships, often not designed for the cargo they were carrying, were now being heavily laden with cargo stowed in unusual places where access was awkward. Again unusual cargoes often needed special handling as with the *Graciana* bringing a large consignment of hides from Buenos Aires. For such a cargo the dockers received extra pay and those who have been near such cargo will understand why. Since midsummer in 1918 a determined national effort had been made to take cargo from the large ports by coasters and barges to relieve a railway system that, so far as Avonmouth was concerned, could only supply varying numbers of empty trucks now averaging only about thirteen hundred a week against over two thousand a week a year before. Happy would be the dock manager who could without backlash from dock labour change his methods by sending away in small craft large quantities that had until then been customarily loaded into railway trucks. Much shed and quay work would be lost to dockers at Avonmouth and there would be less loading of railway trucks from store. Many older men and those partly disabled would lose light work in shed and store under foremen and chargehands who knew their disabilities. It is all very well to say some of these could go to handle Avonmouth cargo barged to the City Docks, but there they would have to look for employment not from known Port Authority foremen but from the foremen of merchants and shipowners who would feel they had first to meet their own obligations to men they knew and employed. Many dockers in normal conditions had perforce to move from dock to dock to find work and from one class of dock work to another, but these would tend to be those on the fringe of a central majority that kept to Avonmouth and for the most part to one particular class of work. To many of the dockers therefore the undue slackness of work during these months and the necessity now of moving from dock to dock were causes of understandable unrest.

It was on the 6th August 1918 that the Bristol Special Committee asked for men from the Transport Workers Battalion owing to shortage of dock labour. The Port and Transit Executive in London may have instructed the Bristol Committee to do so in view of the close grouping of the following Avonmouth ships. Of these twelve ships, eight brought in 36,063 tons of general goods including some grain and four brought in whole cargoes of grain amounting to 20,346 tons. No men from the Battalion arrived until the 13th August.

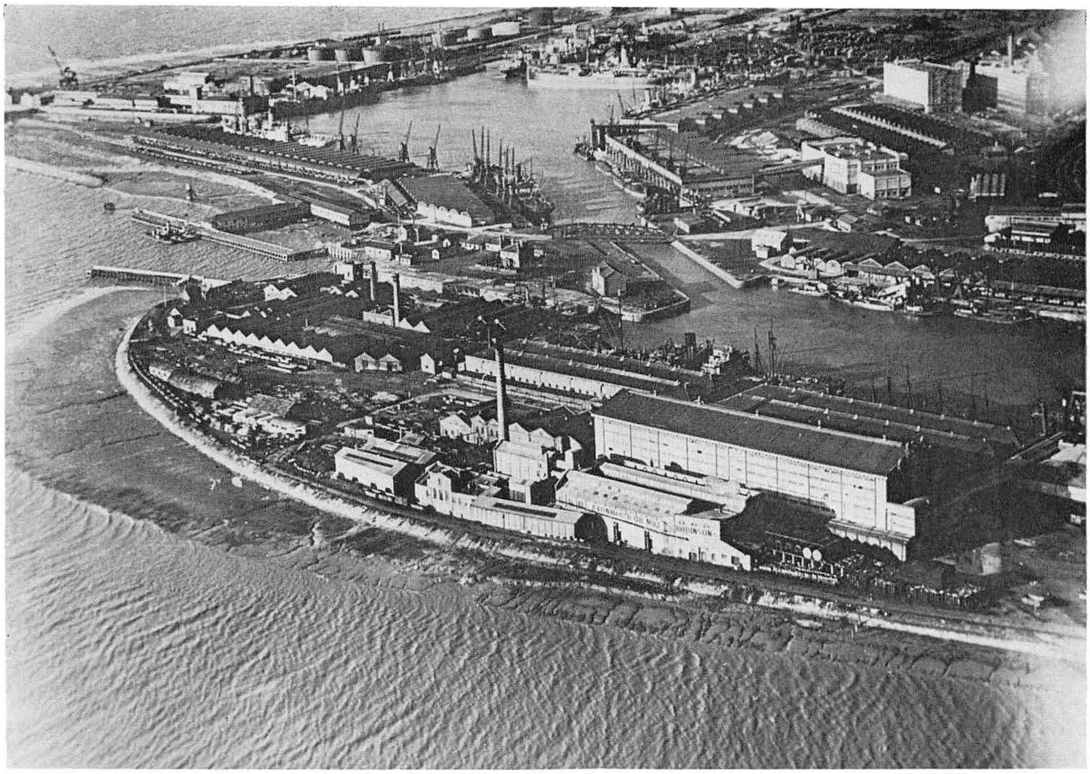
Arrived at Avonmouth Docks	Ship	From	Average unloaded daily (Tons)	Unloading finished
1918				1918
25 July	*Rhode Island* 3,530 tons net	Montreal	746	7 August
26 July	*Bovic* 4,230 tons net	Montreal	585	10 August
28 July	*Patuca* 3,337 tons net	Rio de Janeiro	301	8 August
28 July	*Ormidale* 2,305 tons net	Buenos Aires	696	8 August
31 July	*Commonwealth* 4,176 tons net	Montreal	503	13 August
31 July	*Martaban* 3,282 tons net	Halifax	429	13 August

Arrived at Avonmouth Docks 1918	Ship	From	Average unloaded daily (Tons)	Unloading finished 1918
31 July	*Winifredian* 6,817 tons net	Boston	596	17 August
5 August	*Itola* 3,402 tons net	Rio de Janeiro	803	16 August
5 August	*Graciana* 2,283 tons net	Buenos Aires	522	20 August
14 August	*Maplemore* 2,668 tons net	Buenos Aires	587	28 August
15 August	*Dominion* 4,437 tons net	Montreal	483	29 August
15 August	*Cornishman* 3,678 tons net	Montreal	501	29 August

Portishead Granary relieved Avonmouth by taking the *Braunfels*, 3,558 tons net, that arrived on the 11th August from New Orleans with 7,394 tons of grain. Unloading was finished by the 20th August at an average rate of 1,126 tons a day exclusive of course of the first and last days when work could well be for less than a full day. That sounds a fine performance and it was, but it must have engaged a host of dockers since the grain had to be worked ashore by hand labour and then tipped into receiving points for the four shore elevators to convey grain up and over the transit sheds to the top floor of the granary at the rear.

In the four weeks that ended on the 23rd August 5,115 loaded railway trucks and vans were sent from the Avonmouth Docks with an average load of probably about 7 tons. Within that time 290 small craft with an average load of 110 tons took 32,319 tons out of Avonmouth. Of that 32,000 tons about half went out in coastwise craft. The other half went up to the City Docks.

Down at the Avonmouth Docks the unloading and landing of general cargo would take much longer than similar tonnages of grain would usually take. Haste in handling could also mean damage to many classes of goods. General goods were paid at daywork and not piecework rates so an incentive to high output was lacking. A general cargo with a variety of goods loaded overseas in wartime conditions would almost certainly have to be landed to transit shed for sorting at Avonmouth even though small craft might be waiting within the dock. When, after sorting in shed, the goods went not by level trucking to nearby trucks on the railway lines alongside the rear platform of the shed but back across and maybe along the quay to be stowed in small craft, there was a very appreciable increase in the number of men required. Nor did the labour demand



Avonmouth Docks from the South

Like the previous photograph of these docks, this picture was taken early in the 1920's by aerial approach over the River Avon from the south. The lower altitude, however, gives a good deal more detail particularly on the south-west side of the 1877 Avonmouth Dock. On the river bank are the oil and cake mills of John Robinson and Company who had in 1916 become part of British Oil & Cake Mills Ltd. The Port Authority's Old Granary, a wooden floor granary, rises above and beyond the mills and beyond again on the quayside are the two-storied transit Sheds Nos. 1 and 2 that housed on their upper floors 226,000 cubic feet of refrigerated space but were now to be replaced by the 500,000 cubic feet of the new Royal Edward Cold Store.

This larger cold store, projected in the Corporation's 1914 Act, we now see in pristine whiteness behind and linked by overhead gallery to the upper floor of Shed O. That shed lies immediately on the right after we pass through the Junction Cut in some small craft since the swing bridge is as for most of the time open for road traffic between the opposite sides of the Royal Edward Dock. There is no such road bridge across the almost hidden entrance lock to the Avonmouth Old Dock and access, other than by foot, to the mills, granary and sheds immediately before us would be around the eastern end of this dock. Similarly there is only access by foot across the Royal Edward Lock, in the top left-hand corner, and road access to Shed T, to the oil tanks and land to the north would be around the north of the Royal Edward Dock.

end there. For the traffic that went by small craft from Avonmouth Docks upriver to the City Docks, the demand for dock labour to unload and land the cargo would begin all over again. Many of the dockers who lived in Bristol would prefer, if earnings were satisfactory, to work at the City Docks and to that extent labour urgently required for ships at Avonmouth would be diminished.

Early in August 1918 the Avonmouth sheds and warehouses had ample space for storage and the supply of trucks and craft were adequate for the goods to be sent away. Thus the situation was far different from some former occasions when to call in more labour would have been of no help because the transit sheds were already crammed with goods and the supply of railway trucks was quite insufficient. So on the 13th August 1918 a shortage of 74 civilian dockers was declared by the Bristol Special Committee and for the first time in the war the Transport Workers Battalion sent in men to that extent to work at the Port. In the remaining days of August a total of 636 soldiers were employed during fourteen days when there was a shortage of 844 dockers. In September both shortages and replacements increased and the battalion sent in a total of 1,588 men in the course of twelve days. In October only 14 men from the battalion were employed on one day only and up to the 29th November no more than 237 soldiers had been employed that month. From then onwards until the 23rd December hundreds of soldiers up to over five hundred a day came to work at the docks and even then the men sent from the Battalion were far fewer than the number sought.

The reaction of the dockers was predictably as Bevin had warned and employers had feared. On the 9th September Ross-Johnson told the Docks Committee: "The period has been a very difficult one in regard to labour . . . On Monday and Tuesday, the 2nd and 3rd September, there was a serious shortage of labour, but owing to protests by the Dockers' Union the Transport Workers Battalion was not employed. On the Tuesday a meeting of the Battalion Committee was held and as a result of the efforts of Alderman Twiggs . . . the Union objection to the Transport Workers Battalion was withdrawn." But later in his report Ross-Johnson added: "The week's work has been extremely unsatisfactory. The spirit of labour has been bad and they have been adopting a canny policy." It was a bad omen for difficulties to come and to prevail for long afterwards.

On the morning of Monday the 11th November 1918 the Armistice between the warring nations came into force. It had so far been a sombre morning in Bristol with a wind from the west making the city grey and chill under a moving mist. On many such a grey November day the City Fathers in Council assembled had for centuries past been accustomed to make their Mayor for the ensuing year. Upon such day leaner brethren in the ancient streets might think how fine to be an alderman, robed and rubicund, soon to be warmly seated at the banquet board whereto would come steaming bowls of turtle soup, platters hot with slices from the roasted ox and after who knows what delicacies and wines, then there would come to reign that crimson wine landed from Portugal upon our civic quays and for long laid in city cellars. It could once more perchance have happened on this November day, but it did not. Perhaps somewhere at eleven o'clock a gun had boomed over the city. That is not remembered. But if so, sound forgotten, sight remains. For from the height of Proctor Baker's mill there could be seen across the bowl of the city the numberless flags of victory climbing their poles to flaunt upon the breeze. It was a moment to be alone, but millions then, crowded or solitary, were for a while alone with one who would not be returning with the others.

There was no doubt revelry by night down in the city, but it was under the densest, wettest fine rain in Bristol these fifty-seven years past. Tuesday morning at the Port confirmed the line in Clough's poem

"And as things have been they remain".

We leave the page for a while to Mr. Ross-Johnson who in a report to the Docks Committee on the following Monday wrote:

> "On the announcement of the signing of the Armistice on the 11th inst. the men at the docks left work between 11 and 12 o'clock. The following day the men turned up at Avonmouth but declined to carry on the work unless they were paid for Monday. The question was discussed with the Stevedores, the Secretary of the Employers' Association and the Chairman of the Shipowners' Association and in the circumstances it was agreed that the men should be paid the full day on Monday on condition that they worked the whole of Tuesday. This the men accepted and they have been working normally ever since, with the exception of a few men who have not turned up, although at many other ports it is understood that the men ceased work for several days and demanded to be paid for the full time lost before resuming work. The granting of pay for Monday to the casual staff necessarily entailed the men on the permanent staff in the Traffic and Engineering Departments receiving their pay for the full day."

The whole affair has the air of the aftermath.

November and December did little to improve the low level of trade imports from overseas. Dock labour, empty sacks and railway trucks were in short supply. War traffic began to show signs of decline. Small cargoes of horses and mules were coming back to home pastures and coastwise trade continued the even tenor of its depressing way. There was no work at the Docks on the 14th December which appears to have been a *dies non* for docker and Transport Battalion alike owing to the General Election, the day of Lloyd George's famous or infamous Khaki Election.

R. H. Jones, newly appointed Assistant Manager on the 1st November 1918 among other arrangements after the death on the 27th September of Alfred

Harvey the Secretary, felt constrained to write to the Port and Transit Executive of the Ministry of Shipping at St. James's Park about the objections of the Dockers' Union to the Transport Battalion and the desirability of not stirring up feelings at the Port by pressing for dock work on the Election Day. He wrote as follows on the 12th December:

> "Whilst I cannot obviously give Mr. Bevin's feelings on the matter, yet naturally, as he is a Parliamentary candidate he will probably feel that his hands are tied to a certain extent in his discussions with the dockers, and although today for the first time we have a surplus of Battalion men available, it is considered in the circumstances that it would not be expedient, having regard to the expressions of the Labour Party, to employ them at the docks although they raise no objection to the fullest employment at Avonmouth."

In fact Mr. Bevin had been questioned about the employment of the Battalion when Union representatives met the Bristol Shipowners' Association the previous day. A memorandum reads:

> "Mr. Bevin pointed out that there was a considerable amount of feeling on the part of the dockers to the employment of the Battalion as in their view the war was over. He had 500 Bristol dockers who were at war on his lists and they felt these men should be demobilised and returned to their work and he thought considerable trouble would arise. The conditions, he stated, were different from when the agreement was made as the Armistice had been signed."

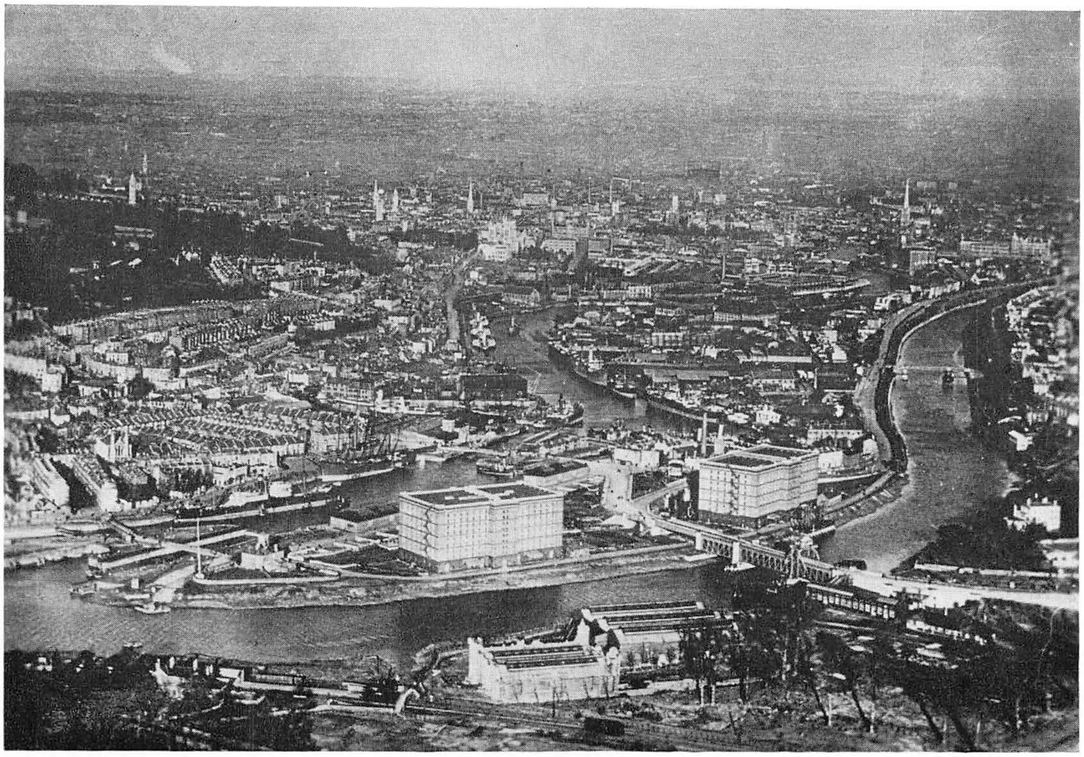
With the likelihood of 500 dockers returning to the Port in addition to the 3,600 dockers registered there for wartime purposes, we can begin to be apprehensive about the level of post-war employment since it is to be remembered that the average casual employment in the Port year 1914 was about 3,000 men a day and that the Docks Committee's 1914 plans for modern labour-saving grain elevators, new granaries and modern grain-handling machinery had only been set aside "for the duration". In assessing the likely shape of things to come neither Bevin nor Ross-Johnson had forgotten their efforts towards decasualisation prior to the outbreak of war.

Mr. Bevin did not win his election contest nor did the use at the Port of the Transport Battalion cease. Men from the Battalion continued to be called for at the docks for some weeks in 1919, but their use at the Port had ceased by the middle of March well before the disbanding of the Battalion at the end of May 1919. Ross-Johnson, asked by the Port and Transit Executive for a summing-up on the work of the Battalion at the Port, said that after initial difficulties the scheme had worked very well. It not only saved considerable delay in discharging ships, "but necessarily had a good moral effect on the ordinary labour and tended to improve their timekeeping. The work of the Battalion was facilitated by the tact shown by the officers in handling the men and by the Union leaders."

From Port documents we can see that a wide range of dock work had been carried out by men of the Transport Battalion. These tasks included the heavy work of bushelling and landing grain ex ship and delivering grain from store. General goods and timber were unloaded from ship and men of the Battalion worked in the Cold Stores at a time of labour surplus when dockers refused the work. At Avonmouth the Battalion worked on the coaling of ships and drove ships' winches. At the City Docks they frequently unloaded general cargo from coasters and barges and at Portishead they joined in loading the cased petrol to go to the Army overseas. William Burgess Limited, the agents for the Wheat Commission, had horses and wagons idle at the City Docks and men from the Battalion drove them. J. S. Fry & Sons, the cocoa manufacturers, had men to load the Sugar Commission's stock from dock sheds but were short of men to unload the carts into their Bristol warehouses. The Battalion sent a few men to help but these were withdrawn on Union objections. At the waterside premises of the St. Annes Board Mill at Netham, barges loaded with straw were lying idle and on many days men from the Battalion worked to get the straw ashore and set the needed barges free for further use. For all these tasks payment was made to the Army Cashier for the Southern Command at the appropriate civilian rates. At first men were drafted in from billets elsewhere but after a while the men came from the White City at Ashton Gate or from Army billets near the docks. It is remarkable not that the Battalion were called in from August 1918 onwards, but that their services were not summoned earlier. The delay was due to the concern of both Port employers and officials of the Dockers' Union concerning the likelihood of adverse reaction from the dockers. Moreover, in times of either truck shortage or the withholding of delivery orders an additional labour force would not have solved the problem of removing goods blocking transit sheds and warehouses.

When most of the reasons have been set down for not calling in men from the Transport Workers Battalion until August 1918, the feeling remains that it would have been wiser to have done so earlier on suitable occasions when dock labour was insufficient to meet the needs of the Port. We have found no adequate reason for the decline of 28 per cent in Port trade from overseas in the year to the end of July 1918 compared with a decline of only 15 per cent in such trade at all the Ports of the kingdom during that time. The war dangers to shipping in the Bristol Channel were not as a rule markedly greater than for shipping making its way to South Coast and other West Coast ports where men of the Transport Battalion had for long been employed. Could it be that the failure of the Port to call in men from the Battalion caused ships to be diverted to other ports where the use of the Battalion would result in that vital objective of a quicker turn-round in ships being achieved? If so, the doldrums that becalmed the trade of the Port from August 1917 were to some extent brought about by people who were blind to all but their immediate interests.

So Bevin had on his list 500 Bristol dockers due to return from the war and 3,600 men who had been registered for dock work at the Port. The Port Authority had already dusted off their pre-war plans for new grain storage, a new floating pneumatic elevator and shore machinery to match. More machinery meant less men unless lost traffic could quickly be regained and much new traffic found. "What is our task? To make Britain a fit country for heroes to live in", said Lloyd George on the 24th November 1918. Lloyd George won the General Election; it was relevant to wonder whether or not the Port was likely to accomplish the task of making its docks a place where four thousand heroes and others could even find a living.



"The City and County and Port of Bristol"

How often at Port functions have we heard some guest propose this toast.

This aerial view of the City Docks was taken in the early nineteen-twenties in an approach from the west. In the foreground, buildings of the ill-fated White City Exhibition of 1914 were soon to disappear after years of wartime uses. Far to the right just beyond the approach to Ashton Swing Bridge, Clift House awaited demolition following the erection of the Port's third tobacco warehouse within the grounds of the mansion. Between us and the other two Port tobacco warehouses lies a short stretch of the original course of the River Avon used since 1809 to receive the waters of the New Cut at the point where the long dig ended a little way upstream of the more distant of the two Tobacco Warehouses across the water.

Over on the left are the Cumberland Basin locks with a large steamer and two attendant tugs nearby. A sailing vessel in ballast and high in the water is moored to the north wall of the Basin. Two paddle steamers of Campbell's White Funnel Fleet are also moored in the Basin and three more can be seen up the Harbour at Mardyke Wharf opposite Charles Hill's dockyard. Underfall Yard, the Docks Engineer's workshops at the City Docks, is hidden behind the farther Tobacco Warehouse. Under the Yard are controlled sluices through which flow any surplus waters from the Floating Harbour. Here the tidal Avon after flowing through the city once wound in a curve past Clift House towards the Avon Gorge.

But by looking past the winding Harbour many may be reminded yet of how the profile of church towers and spires rose across the bowl of Bristol above the roofs of houses and buildings even as Wren's churches were designed to do after the Great Fire of London.

XXIV

Toll for the Brave

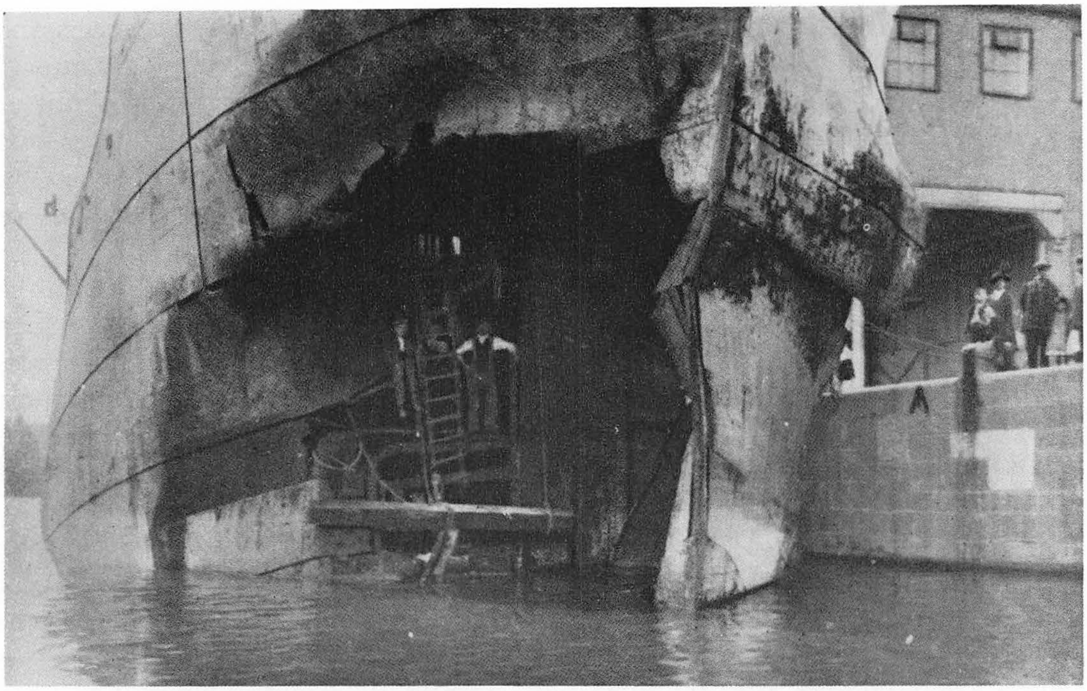
At the outbreak of war the British Empire owned about 20,500,000 tons gross of steam shipping. The burden of our overseas commerce was carried by about 4,000 steamers of tonnages ranging upwards from 1,600 tons gross and amounting to a total gross tonnage of about 17,500,000 tons. By the end of the war this fleet had lost by war, by marine loss, by transfer to our allies and for other reasons 2,300 of these carriers of commerce with a gross tonnage of about 9,500,000 tons. Nearly 1,400 of such steamers adding up to 6,000,000 tons gross were added to British ownership by new construction or by transfers from abroad so that at the end of the war British ownership stood at about 3,100 steamers of over 1,600 tons gross to make up a total tonnage of about 14,000,000 tons. We had thus lost on balance about 900 of these useful steamers with a gross tonnage of about 3,500,000 tons. At the end of the war about 1,400,000 tons of our shipping was under repair and although this tonnage includes marine damage it also includes damage by enemy action to those ships that nevertheless reached port.

It would appear that Germany had 28 submarines at the outbreak of war, built 344 during the war and lost 192 in the course of the war with a loss of over 500 officers and nearly 5,000 other ranks. Of their submarine fleet at the end of the war 176 were surrendered and 226 were found to be under construction. During the war German submarines sank 2,099 British merchant vessels of all classes with a gross tonnage of 6,635,059 tons and thereby 12,723 lives were lost. Mines sank 259 such ships to the extent of 673,417 tons gross with the loss of 1,493 lives. By capture and internment 117 ships of 442,702 tons gross were lost to us and 52 people were killed. Only 4 ships totalling 7,912 tons gross were destroyed by enemy aircraft whereby 19 people were killed. Thus from all causes 2,479 British merchant vessels of all classes were lost through enemy action and this deprived us of 7,759,000 tons gross of shipping and cost the lives of 14,287 civilians, mostly our merchant seamen. The loss of servicemen is not included in these figures. Many British merchant vessels of all classes were damaged or molested by the enemy but not sunk. On 1,727 such occasions enemy submarines attacked our merchant ships with a gross tonnage of 7,335,827 tons and in the course of those attacks 512 lives were lost. Mines damaged 84 ships of 432,446 tons gross and caused another 64 deaths. Enemy aircraft attacked 44 ships of 89,227 tons gross whereby 4 people were killed; so the rate of success by air attacks on our merchant ships during the war was no more than once in 12 attacks. It was mostly during the early days of the war that 30

British merchant ships of 150,467 tons gross escaped from German cruisers and armed merchant cruisers but these encounters cost 12 lives. Thus enemy attacks on our merchant shipping cost the lives of 14,879 merchant seamen and civilians. The merchant shipping figures set out in this paragraph and the next are taken from the Government's 1919 List of Merchant Shipping losses. The 1919 list showed, so far as then known, brief details of every loss or attack.

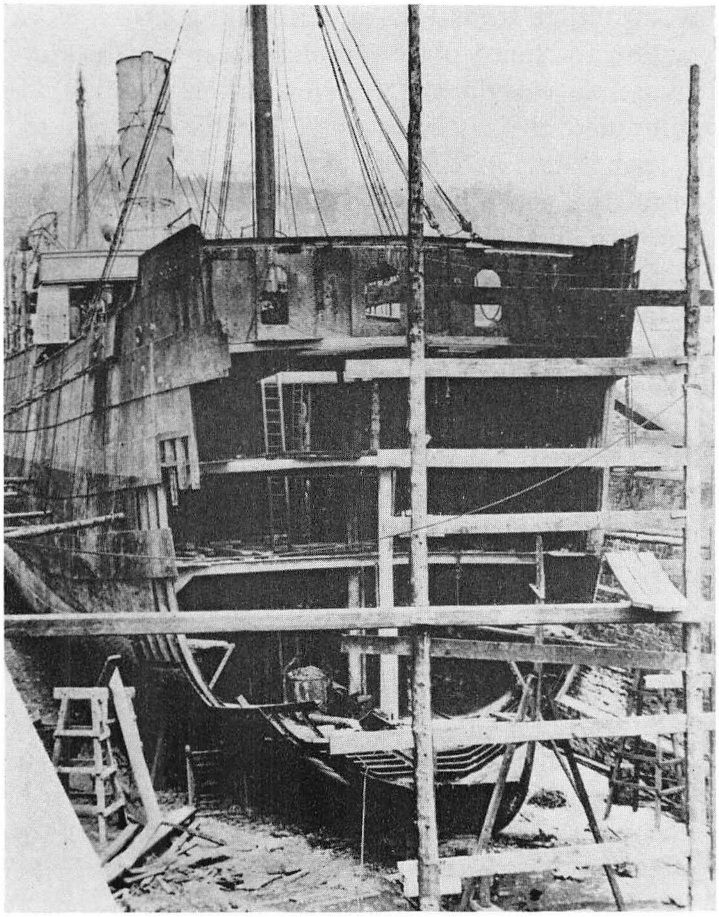
The tale of loss is not yet ended. We have already recorded the sinkings in the Bristol Channel of small fishing vessels, but by far the heaviest losses of such craft took place in the North Sea. Altogether 675 of our fishing craft with a gross tonnage of 71,765 tons were captured or sunk by the enemy in the waters around these islands and 434 of our fishermen lost their lives. German cruisers and naval craft captured 24 in the North Sea in August 1914 after the armed merchant cruiser *Kaiser Wilhelm der Grosse* had made the first such capture by taking the *Tubal Cain* fifty miles west of Iceland. The British Navy's grip on the North Sea is shown by the fact that only 9 more fishing craft were captured there by German surface craft throughout the war. The bulk of the destruction was done by German submarines that sank 578 fishing craft of 57,583 tons gross with a loss of 98 lives. Loss by mines only accounted for 63 fishing craft of 8,545 tons gross but as can easily be foreseen mines caused the heaviest loss of life in that 332 fishermen thereby perished. No fishing vessel was sunk by German aircraft.

Compared with the 21,000,000 tons gross of shipping owned by the British Empire in 1914 there was available at the end of the war 18,000,000 tons gross after taking into account both the gains and losses of the intervening years. By November 1918 only about 38 per cent of this tonnage was being employed in bringing imports into this country while about 30 per cent was in naval or military service. Some 18 per cent of our shipping carried imports to our allies and 14 per cent was engaged in coastal trade, colonial trade and the trade of neutral countries. Those merchant ships requisitioned by the Royal Navy for naval purposes such as armed merchant cruisers, patrol ships, minesweepers and so forth do not appear in the Government lists issued in August 1919 of British merchant ships captured or destroyed or damaged or molested by enemy action. In the words of the Admiralty, "Vessels armed for offensive purposes are not included in these lists". We look in vain therefore to the lists for details of the loss of many familiar merchant ships known to have been sunk or damaged by enemy action. Elders and Fyffes' *Bayano* sunk while an armed merchant cruiser and P. and A. Campbell's *Brighton Queen* sunk while minesweeping are examples of losses not to be found in the Government lists of August 1919. To this extent therefore the figures we have given do not include the loss of many ships formerly employed in commerce.



TORPEDO DAMAGE TO S.S. *Chicago City*

TORPEDOED OFF THE SOUTH OF IRELAND on the 23rd May 1917 the *Chicago City* was navigated astern by Captain Crinks into Queenstown and partly unloaded. A temporary bulkhead was fitted and the steamer is here seen in the City Docks at Shed Y, Canons Marsh, for the discharge of the remainder of her cargo. The steamer was then moved the short distance down harbour for repairs by her owners, Charles Hill and Sons, in their Albion Dry Dock.



REPAIR OF DAMAGE TO S.S. *Chicago City*

UPON ARRIVAL AT THE ALBION DRY DOCK the bow of the *Chicago City* was completely cut away as shown in this photograph and a new bow was built on within the remarkably short time of seven weeks so that the ship was ready for sea in less than two months. Both these photographs of the *Chicago City* are used by kind permission of Mr. John Hill.

Many of the ships that traded to and from the Port before the war were sunk by enemy action and many of the merchant seamen who served aboard them with such fortitude in face of danger were lost. Charles Hill and Sons, the Bristol shipowners, maintained their service from the City Docks to America until May 1918. The 1907 *New York City* of 2,970 tons gross was as already recorded sunk off Ireland on the 19th August 1915. The 1893 *Kansas City* of 2,345 tons gross disappeared with all hands on the voyage home from New York in September 1917 after her convoy six days out had been ordered to disperse. The 1899 *Bristol City* of 2,511 tons gross, after being missed by torpedo in April 1917, was sunk in the Atlantic with the loss of Captain Newton and her crew, thirty men in all, on the 16th December 1917. Upon news of the loss of the *New York City* in 1915 Charles Hill's set about building the *Boston City* of 2,736 tons gross in their Albion Dockyard at the City Docks. The ship under Captain Carey was narrowly missed by torpedo off the north of Ireland in October 1917. Captain Crinks was not so fortunate when in command of the ship on the 2nd January 1918. The *Boston City* was no more than eleven miles off St. Anns Head at the entrance to Milford Haven when torpedoed. No help came before eventually Captain Crinks was bound to abandon ship, but all aboard reached safety. Captain Crinks had however by great skill been able to save the 1892 *Chicago City* of 2,324 tons gross when torpedoed on the 23rd May 1917 off the south coast of Ireland. Two lives were then lost. The *Chicago City* was bringing a valuable cargo from the United States when a torpedo blew a great hole in her bows. It became impossible to steer ahead but Captain Crinks navigated the ship astern into Queenstown. After temporary repairs ship and cargo reached the City Docks and within seven weeks the damaged bow had been removed, a new bow built on and within two months from the attack the ship was ready for duty again. In the year 1917 Charles Hill and Sons also built at their Albion Dockyard another *New York City* of 2,736 tons gross for their Atlantic service. Sixty-two of their seamen lost their lives by enemy action against these ships in the 1914–1918 war. The record of these events is to be found with much else in the history of the company *Shipshape and Bristol Fashion* by John C. G. Hill who therein gives an account of many other ships built at the dockyard alongside the Floating Harbour.

At the outbreak of war the Bristol Steam Navigation Company owned eleven steamers ranging from the 1873 *Clio* of 473 tons net to the 1906 *Apollo* of 1,112 tons net. During 1914 the 1882 *Argo* of 1,099 tons net sailed regularly from the Port to Rotterdam until early August and to Amsterdam from October until the end of the year. Then until June 1915 the *Argo* reverted to trade with Rotterdam. From notes kindly sent to us by the Company on the war service of their fleet it appears that all their steamers were at one time or another on charter to the Government or to others for Government purposes and that the *Argo* after midsummer 1915 was on such service to and from France and in the

Mediterranean. Only once again did the *Argo* arrive at the Port, on the 27th July 1915 from Calais. The Company record that on the 8th February 1916 the steamer was mined four and a half miles off Boulogne Pier on voyage from Pauillac near Bordeaux to Dunkirk and that one man was killed. Long before this, however, finality had been reached by the elderly *Clio* when in the words of Stone and Wells this steamer, "familiar to all Bristolians at her loading berth at the Broad Quay near St. Augustine's Bridge, was taken over by the Admiralty, filled with sand and cement and sunk at the entrance to an east coast harbour for defensive purposes". This honourable indignity took place at Scapa Flow the northern base of the Grand Fleet under Admiral Jellicoe. The Company's 1882 *Juno* of 825 tons net made fifteen voyages in 1914 between the Port and Amsterdam up to November 1914. From then, the Company record, the ship was on Government service until torpedoed without warning seventeen miles from Cape Barfleur near Cherbourg on the 2nd May 1917 with the loss of one man.

Tracing the source of ships' names often yields unexpected knowledge. The tradition of the B.S.N. was to name their ships after Greek deities and ancient notables with names ending in "o". *Pluto*, god of the underworld, was the name chosen by the Company for their 240-foot steamer of 772 tons net launched from the Glasgow yard of A. and J. Inglis in 1897. In the early part of 1914 the *Pluto* made frequent voyages between the Port and Amsterdam and Rotterdam. The Company say the *Pluto* was the first of their steamers to go on Government service by taking stores between Newhaven and Havre and Nantes. The *Pluto* was thus an early starter since our second chapter showed that in the First Movement of the British Expeditionary Force from Avonmouth, the Company's *Echo* and *Tasso* arrived at Avonmouth on the 11th August 1914 and sailed O.H.M.S. on the 13th with motor vans and petrol. The *Pluto* did not return to the Port again until an arrival from Almeria on the 8th November 1914 and in 1915 is shown with four arrivals from Boulogne between the 26th March and the 11th August. By September the *Pluto* was released from Government service and returned to the familiar Bristol–Swansea–Rotterdam service. So she continued through 1916 and on into 1917 with a last arrival at the Port from Rotterdam on the 2nd March. The Company record that on the 10th April 1917, one day out from Rotterdam, the *Pluto* was torpedoed without warning thirty-two miles off Lowestoft. All the crew were saved.

By the 15th July 1914 the Bristol Steam Navigation's *Tasso* of 1,859 tons gross and 1,120 tons net had arrived six times that year at the City Docks from Antwerp. Her seventh arrival was from Port Talbot on Tuesday the 11th August to join the First Movement as a transport bound for France. On Thursday the 13th the *Tasso* sailed from Avonmouth with fourteen motor vans. Her next arrivals at the City Docks were from Alexandria on the 12th January and 9th

March 1915. Thereafter the name of the *Tasso* is not again mentioned in the Port arrivals from overseas. On the 17th March 1917 the unarmed *Tasso* was torpedoed without warning five miles south of the Ile de Groix that lies two or three miles off the coast of Brittany at the entrance to Lorient. The Master of the *Tasso* and eighteen others lost their lives.

The Bristol Steam Navigation's 1900 *Sappho* of 806 tons net was not based upon the Port before the war but traded between Hamburg and the up-Severn port of Sharpness. On those voyages the *Sappho* brought back appreciable quantities of that refined beet sugar which had so effectively closed the Bristol refineries and their historic imports of raw sugar from far plantations. We now quote from the notes kindly sent to us by the Company:

> "At the outbreak of the first world war one of the Company's vessels was much in the limelight and was the subject of many diplomatic telegrams between the Foreign Office and its German counterpart. This was the *Sappho*, which had arrived in Hamburg on 25 July 1914 and was loading her return cargo when the German authorities compulsorily unloaded 1,000 tons of sugar. It might be an exaggeration to say this was the first hostile act of the war, but it was the cause of a great stir in British diplomatic circles. Representations were still being made for the sugar to be reloaded when war was declared and the *Sappho* was interned. Captain W. Jenkins and his crew of 14 were interned at Ruhleben, and the ship became a fleet collier operating on the Elbe and in the Heligoland Bight. She was returned to her owners at the armistice, somewhat the worse for wear."

At Ruhleben Captain Jenkins shared quarters with Mr. C. B. Short, later to become the Port's Dredging Superintendent, and with Mr. S. J. Thomas sent by the Port to Germany to supervise the building of the new dredger that never arrived. The quarters also housed a fourth mariner and are described by Mr. Short as nothing much more than a horse box. After the war the *Sappho's* first arrival at the Port under the command of Captain Jenkins was on the 12th October 1919 and thereafter the ship sailed regularly between the City Docks and Rotterdam and Antwerp. The *Echo* had returned to this route as early as the 7th April 1919 and was followed by the 1899 *Ino* of 778 tons net a month later.

Before the war the elegant steamers of Elders and Fyffes ran a liner service for passengers and cargo from Avonmouth to Port Kingston in Jamaica and Port Limon in Central America. Cargoes of bananas ranging from 55,000 to 70,000 stems arrived at Shed N in the Avonmouth Dock every week and were unloaded, put among straw in heated railway vans and sent inland within nine hours of mooring the steamer at berth. In the year to the 30th April 1914 nearly three million stems of bananas were handled there. At the outbreak of war the Company had a fleet of nineteen steamers ranging from about four to six thousand tons gross. Many of these steamers came more or less regularly to Avonmouth to maintain the service to the Caribbean. The Navy requisitioned a number of the Company's ships for use as armed merchant cruisers to join patrols in searching for the enemy at sea and in protecting merchant shipping. The dry docks and shipyards at Bristol and Avonmouth were soon fully engaged in all manner of naval work. Early in the war the ship-repairers J. Jefferies and Sons were given the work at Avonmouth of converting three of Elders and Fyffes' West Indian liners into armed merchant cruisers. In the course of this work cabins and passenger facilities were taken out together with the insulation material for fruit storage. After that came much adaptation for naval purposes. The speed of the work is shown by the time taken upon the *Bayano*, a modern steamer of 5,948 tons gross and 3,500 tons net. The *Bayano* arrived at Avonmouth on the 8th November 1914 from Port Limon with a cargo of bananas. It was her seventh arrival since the previous 14th February. The ship was then requisitioned by the Navy and work to convert her into an armed merchant cruiser at once began. The change, as with the other two steamers, was brought about in six weeks and on the 4th January 1915 the *Bayano* joined the Northern Patrol for war service. Admiral Jameson records in his book *The Most Formidable Thing* that on the 25th February 1915 four U-boats left their base in Germany. One of them, the *U27* sailed northabout to enter the Irish Sea and there sank two ships before returning to base after twenty days. It was shortly before dawn on the 11th March that the *U27* torpedoed and sank the *Bayano* with heavy loss of life ten miles off Corsewall Point on the coast of Wigtown. So far as can be traced Elders and Fyffes' *Bayano* was the first overseas ship with regular Port associations to be sunk by submarine.

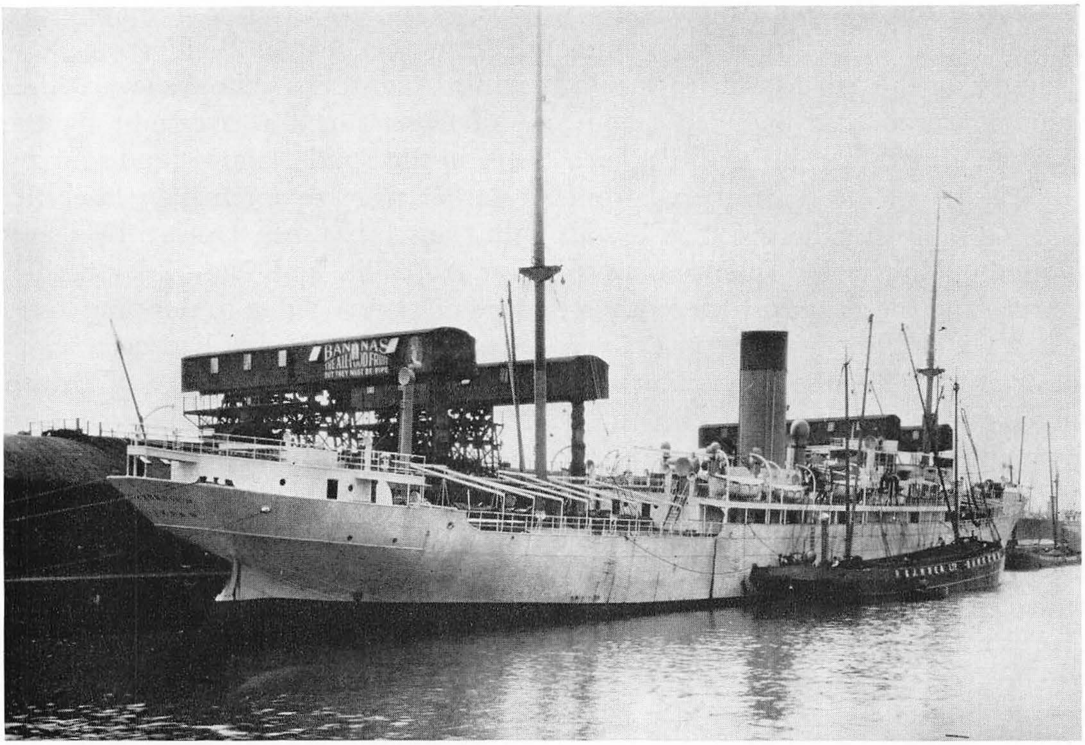
It was not until the 5th April 1916 that the Company next lost a steamer when the 1905 *Zent* of 3,890 tons gross was torpedoed without warning twenty-eight miles west of Fastnet and sank in two minutes with the loss of forty-nine lives. On the 18th August 1916 the 1905 *Pacuare* of 3,891 tons gross fought off a submarine gun for gun in the Mediterranean. Thereafter it was not before the great submarine onslaught of 1917 that the Company's ships began to be heavily assailed. By now their steamers were defensively armed. On the 10th March 1917 the *Aracataca* of 4,154 tons gross was outward bound from Liverpool to Costa Rica when attacked by gunfire from a German submarine 250 miles west of Fastnet. The *Aracataca* returned the fire, outfought the submarine which was hit and had her gun silenced. The *Aracataca* that had one man killed in the encounter escaped when a British naval ship arrived. On the 14th March the 1909 *Tortuguero* of 4,175 tons gross was attacked by gunfire from a submarine but escaped by use of speed. Only ten days later, the Company's *Coronado* of 6,589 tons gross, built in 1915 at Workman Clark's Belfast yard, fought off a German submarine in an exchange of gunfire off south-west Ireland.

For Elders and Fyffes June 1917 was a most disastrous month. On the 1st their *Cavina* of 6,539 tons gross that had last arrived at the Port on the 12th April was torpedoed without warning and sank forty-five miles south-west of Fastnet. Next day the *Coronado* was torpedoed off Southern Ireland but reached port. On the 15th June the *Camito* of 6,611 tons gross, built in 1915 at the Glasgow yard of Stephens and Son, fought off a German submarine by gunfire at the entrance to the English Channel, but before the end of the month two more of the Company's 1904 steamers had been sunk. The *Miami* of 3,762 tons gross was sunk without warning eleven miles east of Fastnet on the 22nd and on the 26th the *Manistee* of 3,869 tons gross was similarly sunk eighty-six miles west of Bishop Rock in the Scillies with the loss of five lives. The *Camito* that had escaped in mid-June was not so fortunate in mid-August since on the 13th the steamer was mined to the north-west of Ireland but reached port. The losses of the year 1917, wherein three of the Company's steamers had already been sunk, ended when the 1906 *Chirripo* of 4,050 tons gross was sunk on the 28th December by a mine within a half-mile of Black Head at the entrance to Belfast Lough, wherein lay the shipyard of Workman, Clark's at which the ship had been built and where her successor in name was to be built in 1919.

Far away on the 10th February 1918 the *Chagres* of 5,288 tons gross that throughout 1913, 1914 and 1915 had regularly steamed between the Port and the Caribbean, was torpedoed and sank sixty-two miles north of Cape Drepano in Crete. One life was lost. At midsummer on the 26th June, the 1909 *Tortuguero* of 4,161 tons gross was sunk with the loss of twelve lives 205 miles out in the Atlantic north-west of Eagle Island on the coast of Mayo. Also far away, the 1906 *Reventazon* of 4,050 tons gross sank with the loss of fifteen lives including the Master when torpedoed on the 5th October 1918 fourteen miles west of Kassandra Point at the entrance to the Gulf of Salonika. We have so far been able to give chapter and verse for the wartime sinking of nine of Elders and Fyffes' steamers. Stone and Wells in their 1919 book *Bristol and the Great War* state that the Company's *Patia* and *Aracataca* were also sunk by enemy action. With information gathered at the time they are likely to be correct. No confirmation has been found elsewhere, but the ships may have been sunk while in naval service. Furthermore, the names *Patia* and *Aracataca* are not to be found in *Lloyd's Register* for 1920–1921. It appears therefore that during the war Elders and Fyffes suffered the disastrous loss of eleven of their steamers through enemy action.

Eight ships of the New Zealand Shipping Company had made a number of calls at Avonmouth in the years before the war to build up an increasing trade with New Zealand. Of the many ships the Company lost out of their fleet of twenty-three steamers at the outbreak of war, three of the ships that had visited Avonmouth were lost by enemy action. They were the *Kaipara*, the *Otaki* and late in the war the *Hurunui*. An early loss was the Company's 1903 *Kaipara* of 4,741 tons net that last arrived at Avonmouth from the port of Wellington, New Zealand on the 4th March 1914. On the 16th August 1914 the *Kaipara* with a valuable cargo that included 4,000 tons of frozen meat was caught by the German armed liner *Kaiser Wilhelm der Grosse* in the South Atlantic and sunk by gunfire. It will be remembered from an earlier page that ten days later the *Kaiser Wilhelm* was herself sunk by our light cruiser *Highflyer*. During 1915 and 1916 the United Kingdom's imports from Australia and New Zealand fell sharply and the Port duly shared in a decline not entirely due to shipping losses which yet had to rise to the peak losses of 1917. Much shipping had been taken for transports by the Australian Government and as the shortage of British merchant tonnage began to become more acute, ships could not be spared to fetch the needed Australian grain or the meat and dairy produce from New Zealand since North American grain and provisions could be brought in voyages taking one-third of the time. In the Port year 1915 there had arrived from Australia 34,000 tons of grain to be followed by a mere 258 tons in the year that ended on the 30th April 1916. There was a recovery to 23,000 tons in the imports of Australian grain in the next twelve months.

The New Zealand Shipping Company's *Otaki*, 4,611 tons net, 465 feet in length, built at Dumbarton in 1908, arrived at Avonmouth once in 1913, once in 1914 and then for the last time on the 8th December 1915. In December 1916 the heavily armed raider *Möwe*, formerly a German merchant ship of 4,500 tons, slipped through the Royal Navy's northern blockade under cover of storm and darkness as she had done twelve months before. After her second successful cruise the *Möwe* returned to Kiel towards the end of March 1917. On the 10th March during her voyage back to Kiel from the South Atlantic the *Möwe* when 350 miles east of the Azores encountered the *Otaki* by now defensively armed with one 4·7-inch stern gun as against the four 5·9-inch, one 4·1-inch and two smaller guns of the *Möwe*. The *Otaki* under the command of Captain Bissett Smith, R.N.R., was travelling at 15 knots and refused the *Möwe's* signal to stop. The faster *Möwe* opened fire from a position astern. The *Otaki* replied at a range of 2,000 yards and caused considerable damage, set the *Möwe* afire and killed or wounded fifteen of her crew. But the heavier armament of the *Möwe* told, the *Otaki* was seriously afire and with heavy seas running and with darkness coming on, Captain Smith ordered the survivors of his crew of seventy-one to take to the boats in the hope of their being picked up. This duly happened. Captain Bissett Smith with his chief officer and the ship's carpenter stayed aboard for quite a while, but when at last the other two men jumped off, Captain Smith remained aboard to go down with his ship. The *Möwe* had the luck of the contest in avoiding a similar fate. Captain Bissett Smith was posthumously awarded the Victoria Cross with the citation "for conspicuous bravery and devotion to



THE S.S. *Greenbrier*

BY 1919 THE GERMAN STEAMER *Pungo*, now no more known as the *Möwe*, had been surrendered and was in possession of the Shipping Controller. The steamer arrived at Avonmouth from Dublin on the 18th October that year under the name of *Pioneer*. No cargo was brought and the steamer remained repairing for some months. By July 1921 the steamer had been acquired by Elders and Fyffes and was known by her fourth name of *Greenbrier*. The company principally used her to bring bananas from the Caribbean to Garston in the Mersey. True to destructive form, the steamer while under the house flag of "E and F" sank the lightship *Formby*.

There was no such occurrence at Avonmouth when the *Greenbrier* arrived at Avonmouth on the morning tide of the 18th June 1929 bringing 80,000 stems of bananas from Santa Marta in Central America. Our photograph shows the *Greenbrier*, alias *Möwe*, lying at Shed N, Avonmouth Dock, where Elders and Fyffes discharged banana boats by their four elevators bearing revolving pouches for lifting the fruit. It appears to be that day unloved by all but coal merchants when the bunkers of coal-fired ships were replenished since the bunkering craft of R. and J. H. Rea Ltd. is seen lying alongside this spic-and-span steamer.

the country in the presence of the enemy when he fought a very gallant action against overwhelming odds and all but succeeded in destroying the enemy, finally going down in his ship with the colours still flying". Five of the crew and Captain Bissett Smith lost their lives and the remainder were taken prisoner by the *Möwe*.

It was on the 1st February 1916 that news was first received of some German surface raider at large southwards in the Atlantic. Reports were received that the Elder Dempster steamer *Appam* had arrived under control of a German prize crew at a port in the United States for internment. On board were the crews of five other ships that had been captured and sunk. The raider had slipped through our northern naval screen. From descriptions the Admiralty correctly deduced it was the German 1913 steamer *Pungo* of about 4,500 tons gross with a speed of 14½ knots. The new name for this seeming neutral was *Möwe* with the concealed heavy armament already described. The steamer had left Germany in late December 1915 and again eluded the blockade to return to Kiel on the 4th March 1916. By then the *Möwe* under Commander Burggraf Graf Nikolaus zu Dohna-Schlodien had sunk eleven British steamers and one sailing vessel amounting to 42,623 tons gross not including the *Appam*. A minefield was also laid off Pentland Firth and sank the battleship *King Edward VII* and two merchant ships. This daring adventure was repeated in December 1916 with a return to Kiel on the 22nd March 1917. This time twenty British steamers and one small sailing vessel adding up to 112,014 tons gross were captured or sunk. Several of the steamers had come to Avonmouth during the war. Possibly due to delay caused by the heavy damage done by the *Otaki*, the *Möwe* did not sally out into the Atlantic again during the war. By the accepted customs for maritime conduct in war it would appear that no exception could be taken to the actions of the *Möwe*.

The wartime experience of Captain Matthews of the Australind Line recalls to mind the recurring calamities of Sinbad. Like the New Zealand Shipping Company and the Federal Lines, the Australind Steam Shipping Company formed in 1904 took the opportunity of the new Royal Edward Dock to build up their trade with the Port. In 1914 each of the four ships now to be mentioned came to the Port to form a link with Western Australia. The 1904 *Australind*, 2,696 tons net, came to the Port as a Government transport on the 10th February 1915 and survived her regular war service between Southampton and Havre. The 1909 *Armadale*, 2,940 tons net, paid her last visit when coming in light to load in April 1914. The Australind Company's ships were named after places in Australia and bore upon their funnels the badge of a swan. The *Armadale* went to Gallipoli as a transport and lay for a while off the coast, whereupon a Turkish sniper used the sign of the swan on the ship's funnel for his initial target practice morning after morning. It was while under the command of Captain Matthews that the *Armadale* was torpedoed and similar misfortune befell during his command of the 1905 *Ashburton*, 2,833 tons net, and also of the 1906 *Arrino*, 2,843 tons net. On each of these three occasions Captain Matthews was the last man to leave ship by diving from the bridge. Captain Matthews was decorated for his war services.

Other companies whose steamships called at Avonmouth in 1913 and 1914 to share in the trade with New Zealand and with Australia were the Federal Steam Navigation Company of London, the Shire Line owned by Thomas Law and Co. of Glasgow, the Scottish Shire Line owned by Turnbull, Martin and Co. of London and Glasgow and the three steamers of Birt, Trinder and Bethell also of London. Of the six ships of the Federal Steam Navigation to visit Avonmouth in those pre-war years only the 1903 *Somerset* of 7,272 tons gross appears in the Government's 1919 list as lost by enemy action. None of the pre-war Avonmouth visitors belonging to the other steamship companies mentioned were lost by enemy action in the course of trade as merchant ships.

During the war the Cunard Steamship Company lost twenty ships of over 200,000 tons gross including the loss of the *Lusitania*. As already recorded, Cunard in taking over the Avonmouth interests of Canadian Northern Steamships in May 1916 acquired the three steamships of the Canadian company's subsidiary, the Uranium Steamship Company. Those three ships were renamed the *Feltria*, the *Flavia* and the *Folia* and for a while were used to continue the Avonmouth link with Canada. The *Folia* of 6,705 tons gross made three voyages from Avonmouth to Montreal in 1916 and made her fourth and last arrival at Avonmouth at the end of a voyage from New York on the 2nd January 1917. On the 11th March the *Folia* was sunk without warning with a loss of seven lives four miles from Ram Head near Youghal, South Ireland. The *Feltria*, 5,254 tons gross, made the last of her four visits to Avonmouth on the 8th March 1917 with an arrival from Portland, Maine and was also sunk off South Ireland without warning on the 5th May eight miles from Mine Head only a few miles from where the *Folia* had been sunk less than two months before. Forty-five lives including that of the Master were lost. Only the largest of the three, the *Flavia* of 9,291 tons gross, was left and this steamer was now put on the North America to Avonmouth run from time to time. The *Flavia* also nearly came to grief off South Ireland on the 26th November 1917 when missed by a torpedo. Her fourth and last visit to Avonmouth was an arrival on the 3rd April 1918 from Portland, Maine. When thirty miles north-west of Tory Island that lies off the north-west corner of County Donegal the *Flavia* was sunk without warning and with the loss of one life on the 24th August 1918. Old salts used to say it was unlucky to change a ship's name.

In 1909, the year after the opening of the Royal Edward Dock, the ships of the Canadian Pacific Steamship Line arrived seventeen times at Avonmouth from Quebec and Montreal during the summer season and from St. John, New

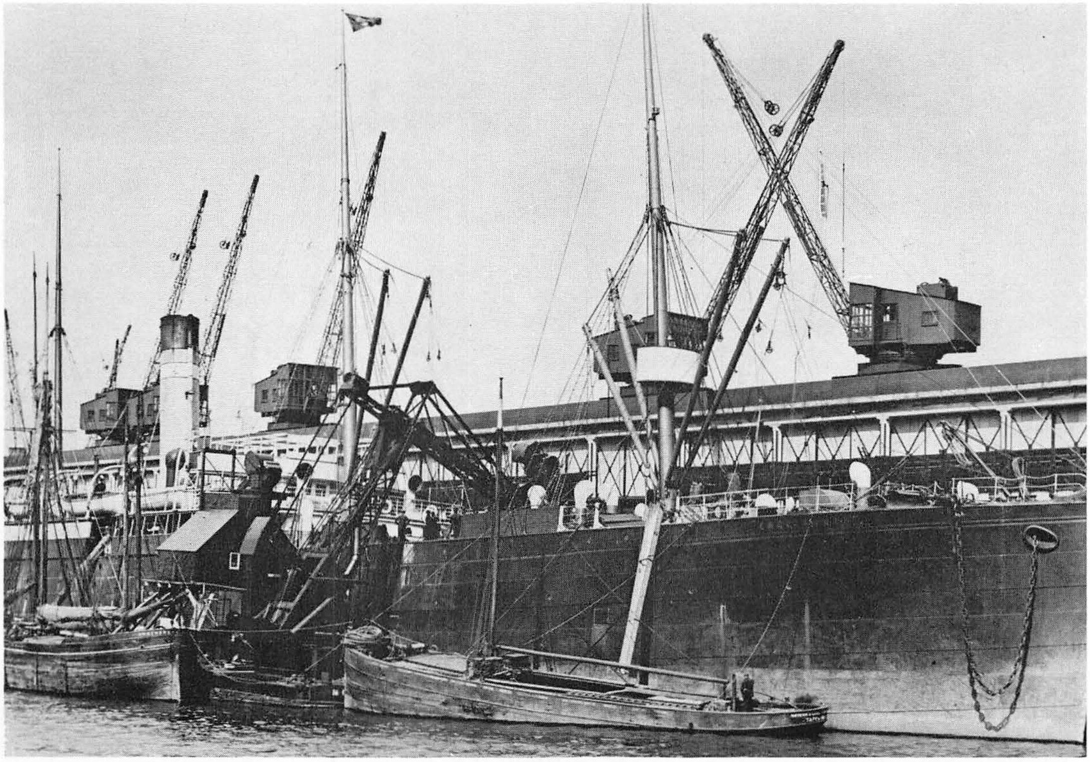
Brunswick during the winter season after ice had closed the St. Lawrence River. The service was maintained at that rate until 1912 when the number of Avonmouth calls fell to ten and then to eight in 1913 and three only in the calendar year 1914. This decline in Canadian Pacific arrivals was hardly surprising. The Dominion Line in 1910 made twenty-three arrivals at Avonmouth either from Montreal in the summer season or from Portland, Maine in winter and the entry of their steamers increased to thirty-five in 1912 and thirty-six in 1913. It was in the spring of 1910 that the *Royal Edward* and the *Royal George* began their regular voyages to Montreal in summer conditions and in winter to Halifax, Nova Scotia, a terminal point for the Canadian Northern Railway, the principals of the Royal Line, even as St. John, New Brunswick was an Atlantic terminus for the Canadian Pacific Railway, the owners of the Canadian Pacific Steamship Line. An account of the loss of the *Royal Edward* has been given in an earlier chapter. The Royal Line at Avonmouth was not only in competition for passenger and emigrant traffic with the Canadian Pacific's Empresses out of Liverpool but also carried cargo, the carriage of which was the purpose of the calls made by the Canadian Pacific's 1897 *Montcalm*, 3,508 tons net, and by the 1900 *Monmouth*, 2,569 tons net. For the Dominion Line the five ships that principally showed the house flag at Avonmouth from 1910 up to the outbreak of war were the 1891 *Cornishman*, 3,678 tons net, the 1891 *Englishman*, 3,345 tons net, the 1888 *Manxman*, 3,122 tons net, the 1892 *Turcoman*, 3,683 tons net, and the 1891 *Welshman*, 3,670 tons net. It is with the wartime experience of these seven steamers that we are concerned.

The Canadian Pacific's *Montcalm* does not appear in the Port Arrival Lists after 1913. *Lloyd's Register* shows that a larger ship of the same name built in 1917 takes her place in the list of steamers owned by the Canadian Pacific. The former *Montcalm* does not appear in the Government 1919 list of merchant ships lost in the war and it may be that the steamer was requisitioned and lost in that service. Again, the ship could have been a marine loss or sold to other owners. The *Monmouth*, after striking a mine off Cherbourg in November 1916 and being towed in, fought off a submarine by gunfire in the West Atlantic in September 1918 and survived to make five arrivals at the Port on the pre-war route during 1919. The Canadian Pacific's 1899 *Montfort* of 6,578 tons gross and 4,126 tons net had been diverted to the Port on a voyage from St. John's, Newfoundland as early as the 17th February 1915. From then until her last appearance at the Port as late in the war as the 23rd June 1918, the Port records show twenty-two arrivals from St. John or Montreal. On the 1st October 1918 the *Montfort* was sunk without warning and with the loss of five lives 170 miles west of Bishop Rock.

Of the five Dominion Line ships already mentioned the *Cornishman*, the *Turcoman* and the *Welshman* not only appeared at the Port during the war but early in 1919 were on their North American route to and from Avonmouth. The *Welshman* had been missed by torpedo off Ushant on the 6th August 1917 and seventeen days later the *Manxman* had similar good fortune west of Gibraltar. The wartime record of the *Englishman* is given in the caption to the second photograph of this steamer.

As long ago as 1904 steamers of the Clan Line owned by Cayzer, Irvine and Company came into the rivermouth docks of the Port from Calcutta and Bombay. After a break in 1906 and 1907 this traffic continued until the outbreak of war and from 1908 onwards their ships also came in from British and continental ports to load for South Africa. Of their 1914 fleet of fifty-six steamers with a total gross tonnage of over 250,000 tons, twenty-three of these Clan steamers are named in the Government's 1919 list of British merchant shipping on trade voyages as sunk by enemy action. Many others are named as escaping from enemy attack. Eight of the Company's steamers came into the Port in 1912 and 1913 and three of those ships were torpedoed with heavy loss of life. The *Clan Macfarlane*, 4,710 tons gross, went down seventy-one miles south of Crete on the 30th December 1915 with the loss of fifty-two lives, the *Clan Farquhar*, 5,858 tons gross, was lost with forty-nine of the crew eighty miles north of Benghazi on the 26th February 1917 and the *Clan MacDougall*, 4,710 tons gross, also sank in the Mediterranean with a loss of thirty-three men after attack on the 15th March 1918. It may be recalled that the *Clan Sutherland*, 2,820 tons gross, arrived from Glasgow on the 14th August 1914 to take part in the First Movement. The ship was torpedoed in the English Channel on the 17th April 1917 with loss of twelve lives, but was beached, repaired and continued in the Company's service after the war. The Company's ships made eleven more visits to the Port during the war and of these visitors the *Clan Ferguson*, 4,808 tons gross, was sunk with the loss of eighteen lives fifteen miles off Cape Spartel, Morocco on the 6th September 1917 and the *Clan Macpherson* was sunk with the loss of eighteen lives twenty-four miles north of Cape Serrat, Tunis on the 4th February 1918. All the five ships sunk with a total loss of 162 lives were torpedoed without warning.

The Hollandsche Stoomboot of Amsterdam began to trade with Bristol in 1899. Their 1902 *Veghtstroom*, 829 tons net, made fortnightly visits for some years before 1914. During the early years of the war the *Amstelstroom*, the *Texelstroom* and the *Waalstroom* kept up a less regular trade with the City Docks. These ships were all lost by war operations, their last arrivals at the Port from Amsterdam being on the 22nd January 1917, the 20th September 1915 and the 15th June 1917, respectively. The Company also lost the *Berkelstroom* that traded elsewhere. The Company's *Zaanstroom*, not a visitor to the Port, continued to trade between London and Rotterdam after the outbreak of war. While bound for London on the 18th March 1915 the steamer was stopped by the *U28* and taken into Zeebrugge as a prize. The German Prize Courts held in a

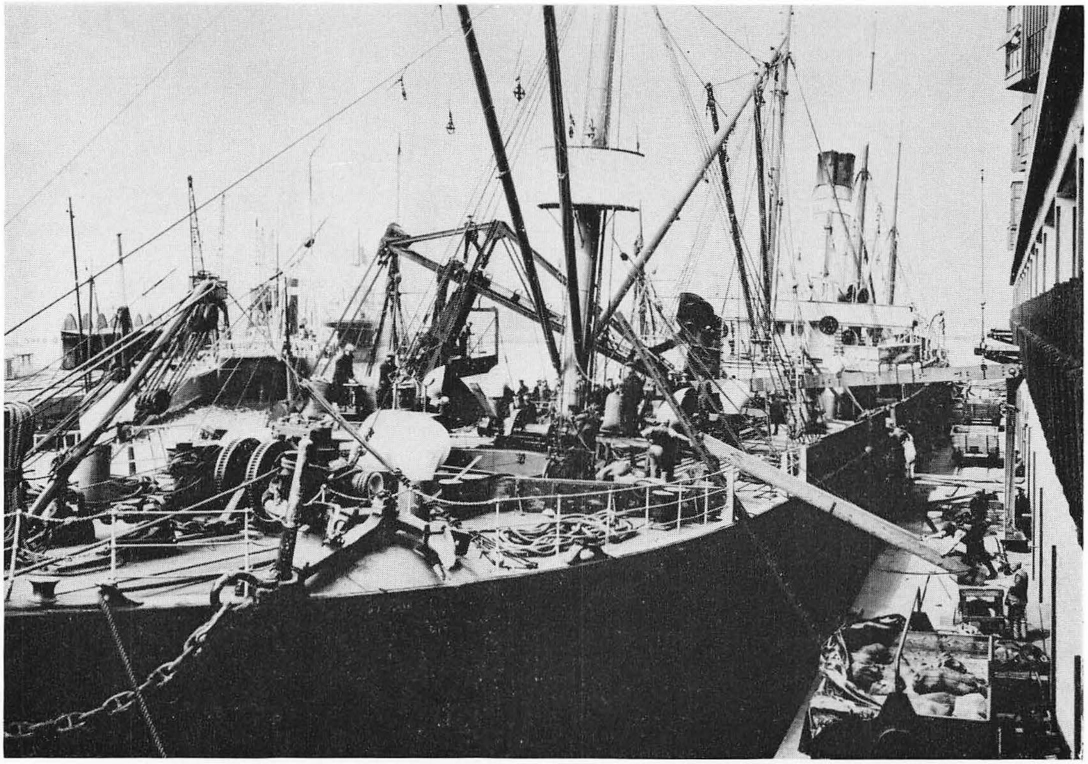


S.S. *Englishman* AT SHED O

THIS PHOTOGRAPH like the one to follow was taken in July 1910 and shows the Dominion Line steamer berthed at Shed O in the Royal Edward Dock after a return voyage from Montreal. The *Englishman*, a twin-screw steamer of 5,257 tons gross and 3,345 tons net, was built at the Belfast shipyard of Harland and Wolff Ltd. in 1891. Her length was 430 feet, breadth 47 feet and her depth of hold was 37·9 feet.

The new bucket elevator of the stevedores C. J. King and Sons Ltd. is moored alongside to discharge grain. The sailing craft *Taff* owned by the Severn and Canal Carrying Co. Ltd. has hatch covers off to take aboard cargo for the Severn ports. Outside the Mitchell elevator is wooden ketch *Brothers* of 50 tons gross, built at Cardigan in 1848 and owned in 1910 by Thomas Thomas of Aberporth, Cardiganshire.

In the ten years before 1914 the *Englishman* made several voyages a year between Avonmouth and Montreal and between Avonmouth and Portland, Maine during the winter months when ice closed the River St. Lawrence.



S.S. *Englishman*

THIS PHOTOGRAPH WAS TAKEN upon the same day in July 1910 as that already shown. The view is along the deck of the *Englishman* from one of the platforms lowered from side-openings into the upper floor of Shed O when goods delivered by roof crane direct from ship were to be taken in. The Mitchell bucket elevator is taking grain overside from the ship's hold, but we see that at a forward hatch grain is being landed in a traditional way since a sack of grain is being weighed at scales on deck after having been filled from bulk grain by bushellers in the ship's hold.

Up to the outbreak of war the *Englishman* had already returned to Avonmouth four times from voyages to North America in 1914 and three more such voyages were made that year. Another nine were made in 1915. Her first arrival at Avonmouth in 1916 was from Portland, Maine, on the 20th January. She next reported at Walton Bay Signal Station on the 4th March and that day she also entered dock, berthed and began discharge of cargo. The *Englishman* sailed on another voyage across the Atlantic but on the 24th March was pursued, captured and torpedoed by a German submarine thirty miles north-east from that northern point of Ireland Malin Head in County Donegal. The lives of ten of the crew were lost.

decision the Dutch greatly resented that confiscation of ship and cargo was lawful since part of the cargo was food being taken to London which was a base for the supply of British forces. Adolf Bratt of Gothenburg also suffered loss from the German U-boats. Since May 1905 their 1872 *Adolf*, 486 tons net and 210 feet in length, had kept up a regular service between south Sweden and the City Docks. Early in 1907 the Company's 1881 *Arnold*, 704 tons net and 231 feet in length, was added to the service. The *Arnold* that last arrived at the the City Docks on the 22nd November 1916 was subsequently lost off the island of Coll north-west of Mull. The *Adolf* last arrived in the Harbour on the 26th January 1917 and was later torpedoed off the Orkneys. Wartime voyages between Gothenburg and Bristol thereupon ceased.

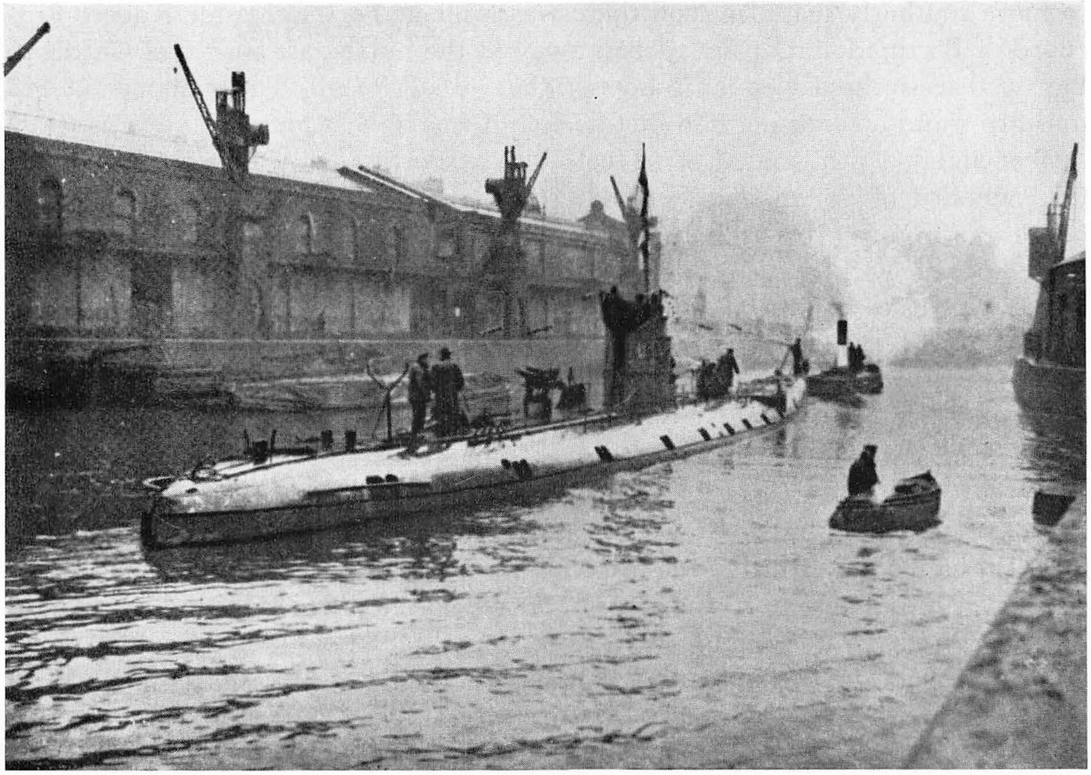
Palgrave, Murphy and Company of Eden Quay, Dublin had for long before the war regularly employed their fleet of rather elderly steamers to voyage between the City Docks and Hamburg. One or other of their steamers of from 450 to 800 tons was invariably to be seen at Shed U, the third shed on the right as one looked over or through the ornate bronze parapet of the one-sided St. Augustine's Bridge to gaze down the thirteenth-century St. Augustine's Reach towards the massive Princes Wharf Granary three furlongs distant. Through this shed the Company passed nearly 75,000 tons of sugar and other continental traffic in 1912. From late May to the end of July 1914 ten of their fleet arrived at the City Docks from Hamburg. All Palgrave, Murphy's ships were named after British or Continental cities. At the outbreak of war the Germans made a haul of five of them at Hamburg. All were recent visitors to the City Docks, the 1881 *City of Hamburg*, 1,200 tons gross, the 1862 *City of Cadiz*, 780 tons gross, the 1876 *City of Belfast*, 891 tons gross, the 1874 *City of Berlin*, 999 tons gross, and the 1879 *City of Munich*, 1,384 tons gross. Their subsequent use and fate are unknown to us, save for the *City of Berlin* that had arrived at the City Docks from Hamburg as late as the 23rd July 1914. Stone and Wells record that the steamer was sunk by the Germans for reason unknown while in that port. The captured Irish captains duly arrived at Ruhleben. Palgrave, Murphy lost two more steamers early in the war. On the 4th April 1915 the *City of Bremen*, 1,258 tons gross, was torpedoed without warning twenty miles south of the Wolf Rock off Lands End when four lives were lost. Neither was any warning given on the 24th September that year when the *City of Swansea*, 1,375 tons gross, was torpedoed with the loss of two lives fifteen miles east of Berry Head near Brixham. Three other of the Company's steamers are given in the Government's 1919 list as having been missed by enemy torpedoes.

Shortly after the war the Hutchison Line of Glasgow purchased Palgrave, Murphy's Bristol Channel service to Hamburg and Bremen but perhaps not surprisingly did not purchase any of the Irish company's ageing steamers. From the middle of 1920 all but one of Hutchison's steamers were beginning to trade from the City Docks to Hamburg and Bordeaux although the voyages to Hamburg were for a while infrequent. Palgrave, Murphy kept the *City of Dortmund*, 803 tons gross, and the *City of Frankfort*, 918 tons gross. Four of the others, the *City of Cork*, *City of Liverpool*, *City of Brussels* and *City of Cologne* were sold off under those names but the fate of the *City of Malaga*, *City of Oporto* and *City of Stockholm* is unknown. The *City of Frankfort* arrived at the City Docks from Hamburg on the 16th December 1919 and again on the 17th January 1920, but the long association of the Palgrave, Murphy steamers on the Bristol to Hamburg run ended on the 24th February 1920 when the *City of Frankfort* moored in the City Docks for the last of many times.

The smaller steamers of the Hutchison Line were accustomed to trade from the City Docks to Bordeaux, Bayonne and to a lesser extent to Nantes before the war. *Arethusa*, *Achilles*, *Argo* (not the *Argo* of the Bristol Steam Navigation), *Hector*, *Mercury*, *Paris* and *Thetis*, all came to the City Docks in the years from 1912 to 1914. These steamers ranged in size from about 500 tons up to about 650 tons gross. Altogether they berthed in the City Docks thirty-two times in 1912, twenty-four times in 1913 and twenty-seven times in 1914, usually at Shed V at Deans Marsh in the St. Augustine's Reach. In the wartime years their visits declined progressively from eighteen in 1915 to one only in 1918 when the *Thetis* arrived from Bordeaux on the 3rd December. Of these Bristol visitors only the *Achilles*, 641 tons gross, was lost when captured by a submarine and sunk by gunfire seventy-five miles off Fastnet on the 6th June 1917. Seven days later the *Paris*, 599 tons gross and 180 feet in length, was missed by a torpedo at the entrance to the English Channel. The *Thetis*, 649 tons gross, was chased by a submarine in the English Channel in September 1917 but saved herself with the ship's gun. The other four steamers seem not to have encountered the enemy, at least not while trading as merchant ships.

Turner, Edwards and Company of No. 40 Queen Square were Bristol agents for the Hutchison Line and also owned a small 1878 steamer the *Sir Walter* that had a tonnage of 492 tons gross and 297 tons net, a length of 175 feet and a breadth of 27 feet. For many years before the war the *Sir Walter* made up to fourteen voyages a year to Lisbon, Oporto or Charente, voyages whereby the cellars of Bristol wine merchants were replenished and the hearts of men and women were in due course gladdened. Nor did the war do more than slightly space out these voyages—not until 1917. In that year the *Sir Walter* came in from Oporto on the 20th January and the 3rd May and again on the 10th July from Oporto via Charente. Cape Ortegal is on the north coast of Spain not far from Corunna and on the 24th July when the *Sir Walter* was no more than two and a half miles north of the cape the steamer was captured by a submarine and sunk by bombs. Fortunately no lives were lost.

With the loss of this small steamer of 1878, memory turns to the freedom with which much smaller craft, sailing craft, were accustomed to trade from Britain



German Submarine in the Floating Harbour

On the 10th December 1918 the *U86* arrived at the City Docks from Harwich and twelve days later the *UC92* came from the same port of surrender via Dartmouth. Both were now manned by Royal Navy crews of a dozen or more men. The *U86* was of the latest type, probably carried on war patrol a complement of up to sixty men and had a length of 270 feet, a breadth of 25–30 feet and a tonnage of 800 tons. There was a 4·1-inch gun forward and a 3·4-inch gun aft. The mechanical and electrical equipment was impressive and some German torpedoes remained aboard.

The *UC92* was a smaller craft whose principal purpose appeared to have been minelaying. Mines would have been carried forward of the conning tower. The *UC92* was thought to be a new craft with little if any active service. Both submarines moored near St. Augustine's Bridge.

The Mystery Ship *Hyderabad* arrived at the City Docks on the 27th January 1919 and moored against the Narrow Quay. Many of her class were built and designed to look like innocent traders. They carried masked guns for use as an enemy submarine closed in. The *Hyderabad* of 600 tons net was 240 feet in length with a light draught of about 5 feet. She carried one 4-inch gun, two 12-pounders, four 200-lb bomb throwers and four torpedo tubes.

to more southerly seas. In 1906 there was built at Portmadoc for Robert Pritchard of Portmadoc that lies tucked away in the north-east corner of Cardigan Bay, a three-masted wooden schooner the *John Pritchard.* The schooner of 118 tons gross and 96 tons net had one deck and was 92 feet long with a breadth of 22 feet and a depth of hold of 10 feet. Also at Portmadoc was built in 1909 for G. Pritchard of Portmadoc a similar schooner the *Elizabeth Pritchard,* slightly larger at 126 tons gross and 99 tons net with a length of 93 feet, a breadth of 23 feet and also with a hold 10 feet in depth. On the 25th February 1910 the *Elizabeth Pritchard* arrived at the City Docks from Alicante, a port on the east coast of Spain, on the 2nd March 1913 the schooner arrived from Malaga on the Mediterranean south coast of Spain and on the 28th March of 1915 from Gibraltar. It was the last day of 1912 before the *John Pritchard* entered the City Docks from Alicante and her next arrival there was on the 5th May 1914 from Almeria on the south coast of Spain. The records of the Port do not show the nature of her cargo, but whatever it was the schooner did not take long to unload since she sailed on Saturday the 9th May for Barry. For a sailing vessel a call at Barry was only likely to be for a cargo of coal, perhaps for Portmadoc, perhaps for some Mediterranean port. Neither schooner called at the Port again, nor is either schooner to be found in Lloyd's 1920 Register, but we do know what happened to the *John Pritchard.* On the 30th March 1916 the schooner was captured by an enemy submarine and sunk by bombs off Santa Maura Island where the Ionian Sea breaks against the shores of western Greece. The Ionian Sea was an area of risk since enemy submarines passed through on their way from bases in the Adriatic to attack shipping in the Mediterranean. The trade voyages far and wide before the war of such small sailing craft as the *John Pritchard* and the *Elizabeth Pritchard* already begin to have for us an air of the romance of long ago. In truth, the life aboard was arduous and rough, but we may well wonder what purpose in March 1916 brought the small schooner of Portmadoc sailing in the dangerous waters of the Ionian Sea more than one thousand miles within the Mediterranean. But perhaps even Arabian adventures such as Sinbad's were not past, since in rambling through *Lloyd's Register* of Owners and their domiciles in 1910 there was found the name Dervis Ali, owner of the wooden schooner named *Niemet Huda.* And where was the domicile of her owner? According to *Lloyd's,* "On board".

In the first six months of 1914 there were some four thousand five hundred shipping arrivals at the Port. About four thousand of these entries were by coasters and of these coasters less than one in ten were the larger steamers of 400 tons net and upwards that sailed out of the Bristol Channel to other United Kingdom ports. Thus the great majority of shipping arrivals at the Port were coasters trading back and forth within the Channel east of Lundy Island. These small ships that gave such an air of bustle around the City quays were usually not much larger that one hundred tons net and often much less. In September 1917 J. A. Rose, the Collector of Dues, said in reporting to the Docks Committee on the decline of the coasting trade that the owners of ships trading only within the Bristol Channel did not as a rule insure against war risks. Barren Lundy roughly distant one hundred miles from the mouth of the Avon was no safe place for ships large or small in time of submarine warfare, but most Bristol Channel coasters would be upwards of fifty miles east of Lundy. To the east of islands Steep Holm and Flat Holm, twenty miles or so down the Channel from Avonmouth, the war risks proved negligible. For ships outward bound beyond Lundy, war insurance was a necessity and among the coastal shipping of the Port it was upon those larger ships trading to ports outside the Bristol Channel that the heavier war losses fell.

From voyages overseas we turn now to the coasters that traded mostly from the City Docks to other United Kingdom ports. George Bazeley of Penzance had three Victorian steamers of useful size that regularly sailed before the war from Bristol to London and also called as traffic was available at South Coast ports. The Little Western Steamship Company managed Bazeley's Bristol affairs and in 1912 put a fairly high density of traffic at 63,000 tons through the Port's F and E Shed that situated on the Grove at the City Docks then had an area of only 812 square yards. In July 1914 Bazeley's steamers berthed six times at the shed. The 1883 *Cloch* of 745 tons gross, 373 tons net, 216 feet in length, arrived three times that month, the 1882 *Coath* of 975 tons gross, 505 tons net, 225 feet long, arrived twice, the 1879 *Mercutio* of 885 tons gross, 527 tons net, 200 feet in length, arrived once. It fell to the *Coath* to be the one of the three to be lost in the war. The steamer is believed to have struck a mine in the English Channel on the 12th December 1916 when sixteen lives including that of the Master were lost.

The fleet of M. Langlands and Sons of Liverpool and Glasgow was made up in 1914 of fourteen coasters, each bearing the name of a Princess at a time when there was a much wider field for choice than now. The royal ladies travelled fast since the sea journey from Sheds C and D on the Welsh Back to Aberdeen was over one thousand miles without calls maybe at north-east ports and took a longer steaming time than railways. Yet through the cobbled 898 square yards of the Welsh Back shed D. L. Howe and Co., Langlands' Bristol agents, put nearly 43,000 tons of traffic in 1912. It was a fascinating scene of bustle with horse-drawn waggons crowding along the cobbled highways of the Welsh Back and the Grove with dockers hustling, yes, hustling traffic through the sheds to or from the crowding steamers. Only the horse, whether moving slowly along or waiting, perhaps with head in nosebag, seemed to keep a philosophic calm that workaday man had lost. Punctuality, said Louis XIV, is the politeness of kings. The July arrivals at the City Docks in 1914 show that Langlands' Princesses had that grace.

1st July	*Princess Beatrice* from Aberdeen.
2nd July	*Princess Thyra* from Plymouth.
8th July	*Princess Caroline* from Aberdeen.
15th July	*Princess Beatrice* from Aberdeen.
17th July	*Princess Thyra* from Newcastle.
22nd July	*Princess Caroline* from Aberdeen.
27th July	*Princess Beatrice* from Aberdeen.
31st July	*Princess Thyra* from Aberdeen.

Fourteen days to Aberdeen and back or will the Master kindly inform the owners . . . It is no surprise that in the English Channel on the 29th October 1916 the unarmed *Princess Thyra*, 781 tons gross, 311 net and 210 feet in length, escaped by speed when attacked by gunfire from a submarine. But speed is no protection from mines. On the 6th December 1914 the 1901 *Princess Olga*, 998 tons gross, was sunk five miles north-east of Scarborough by a mine probably laid during the brief raid on that town by German battle-cruisers. The 1910 *Princess Caroline*, 888 tons gross and 361 tons net, was sunk by a mine with the loss of four lives when fifty miles north of Aberdeen on the 13th August 1915. As already recorded, the 1907 *Princess Dagmar* also a visitor to the City Docks was lost with all hands in the Bristol Channel on about the 7th May 1918. Langlands' *Princess Victoria* and *Princess Maud* were also lost by submarine attack.

The City of Cork Steam Packet Company on Penrose Quay at Cork had in 1914 a fleet of nine coastal steamers. Several of these ships formed a link with the City Docks. From early 1915 the Western Approaches south of Ireland and off the mouth of the Bristol Channel were perilous enough, but it was not until the 13th April 1917 that the Company's *Bandon* of 1,456 tons gross was torpedoed without warning two and a half miles from Mine Head, South Ireland with the loss of twenty-eight lives. From late July in 1915 the 1905 *Lismore*, 1,305 tons gross and 630 tons net, made five voyages from Portishead probably with petrol for France and presumably on charter, but her thirteen similar voyages until the end of August 1916 were made O.H.M.S. We know no more of her until the day before the sinking of the *Bandon* when the *Lismore* was sunk without warning twenty-two miles north-west of Havre with the loss of five lives. In the fate of some City of Cork steamers there can be seen the effect of the U-boat tactics in coming closer to shore after the increasing use of convoys for ocean-going steamships from September 1917 onwards. On the 13th November 1917 the 1909 *Ardmore*, 1,304 tons gross, 609 tons net and 260 feet long, was sunk thirteen miles west of the Coningbeg Light Vessel that lay some ten miles off the Wexford coast. In the torpedo attack without warning nineteen lives were lost. Next went the 1895 *Kenmare*, 1,330 tons gross and 554 tons net, when torpedoed on the 2nd March 1918 twenty-five miles north-west of the Skerries Lighthouse, Anglesey. Twenty-nine lives including the Master were lost. Then on the 10th

May 1918 the 1903 *Inniscarra*, 1,412 tons gross and 565 tons net, was sunk off Ballycottin ten miles along the coast from the entrance to Cork Harbour. Twenty-eight lives were lost. Eleven days later down went the 1896 *Innisfallen*, 1,412 tons gross and 400 tons net, sixteen miles north-east of the Kish Lightship which lay thirteen miles out from Dublin. Ten lives were then lost. All six steamers were torpedoed without warning and 119 lives were lost.

To look southward along the Floating Harbour from Bristol Bridge on a weekday before the war was to see moored along the quays of the Welsh Back a crowded medley of steamers and sailing craft engaged in the coastal trade. In 1914 the Welsh trade that had given the Back its name clung tenuously to one small wooden shed. Nearest the Bridge stood the Cardiff Shed of 119 square yards but even that was by then given over to Bridgwater traffic. Next was the Burton Shed of 454 square yards whence the small steamers of the Cardiff firm of Burton and Son sailed almost daily for Newport and Cardiff. It is however to a sectioned shed at the far end of the Welsh Back that we now go. There stood the Glasgow Shed, 2,194 square yards in extent, through which in 1912 there went 58,148 tons of traffic from or to Glasgow and Belfast. Across the cobbled highway of the Welsh Back stood the offices, stables and rumbling flour mill of the Quaker firm of Grace Brothers. Mark Whitwill and Son with offices nearby at the Grove managed the Bristol end of the Glasgow and Belfast trade for the Glasgow shipowners, William Sloan and Company. Five of Sloan's steamers berthed at the Glasgow Shed in July 1914. Four times at intervals of about nine days the 1903 *Findhorn* of 1,122 tons gross, 461 tons net, with a length of 242 feet, a breadth of 33 feet and a hold 16 feet deep, lay moored at the shed and within twenty-four hours or so had put off the cargo for Bristol and taken aboard that for Belfast and Glasgow. The 1911 *Afton* of 1,156 tons gross called twice that month, the 1909 *Annan* of 1,136 tons gross three times, the 1894 *Ettrick* of 965 tons gross once and the largest of those steamers the 1907 *Tweed* of 1,777 tons gross, 1,026 tons net and 268 feet in length called twice. These dozen berthings were spaced out so as not to clash and almost every steamer was round and away in a day. A sixth steamer, the 1883 *Teviot* of 937 tons gross had called in June. The most modern of the six, the *Afton*, was the first to be sunk when captured on the 15th February 1917 by a submarine twenty-three miles north-east of Strumble Head on the coast of Pembroke and destroyed by bombs put aboard. No lives were lost. Sloan's largest steamer, the *Tweed* of 1,777 tons gross, was the other to be lost when on the 14th February 1918 she was torpedoed without warning fifteen miles south from the Tuskar Rock that lay some six miles off the south-east corner of Ireland at County Wexford. Again no lives were lost.

Until Easter Saturday, the 7th April 1917, Mark Whitwill and Son continued to use the whole of the Glasgow Shed for Sloan's Bristol traffic. At 9 a.m. on that Easter Saturday, dockers after half an hour for breakfast were resuming the loading of horse-drawn carts and waggons with cargo from the *Findhorn* which shortly before had left the Glasgow Shed berth after unloading cargo throughout the night. Shortly after 9 o'clock fire was discovered within the shed now congested with sugar, wax, whisky, twine, roof felting and so on. The Port Traffic Manager W. T. Shapland arrived by 9.15 a.m. "and discovered the shed and contents enveloped in flames of the fiercest character fed by melted wax and intensified by escaped whisky". The City Firefloat, two steam fire engines and many serpents of hose from Queen Square "poured huge volumes of water upon the burning mass and the buildings opposite that were in jeopardy". T. R. Brown and Sons, then and ever since a very present help in trouble, sent their tug *Medway* to work a fire pump from the deck. It was a splendid fire, to the uninvolved onlooker, not one of those unsatisfactory affairs with smoke sauntering out of a building and firemen with hosepipes bustling in. Burning whisky and wax flowed over the edge of the narrow quayside and, not then to be extinguished, began to float until halfway across the Floating Harbour in a wall of flame higher than the height of a man. The blaze could at first be watched from one of the intake doorways in Spillers & Bakers concrete South Warehouse upon the other side of the Harbour which is 180 feet in width at this point. The heat however soon became too intense for such exposure. As a fire, though it only raged in full flower for little more than an hour, it was a collector's piece. The conflagration by then was worthily contained within the burnt-out northern wooden section wherein it began. The Committee's property claim of £3,231 3s. on the Sun Fire Office was settled for £2,886 4s. 4d. Why the advancing wall of fire stopped was never known. Perhaps as on other unfortunate occasions the supply of whisky ran short. Other sheds at the City Docks were packed with commodities barged up from Avonmouth, and Whitwills had for the time being to work Sloan's Glasgow trade in the restricted space undamaged by fire. An even more violent doom was many years later to destroy the brick-built section of the shed that the firemen had so strenuously saved. The *Findhorn* had comfortably missed the fire peril that Easter Saturday. No doubt circumstances were not so comfortable on the 30th January 1918 when a German submarine surfaced in the Irish Channel and attacked the steamer by gunfire. By now however the *Findhorn* was defensively armed and after an exchange of shots steamed on.

Until 1917 the war years had been surprisingly free of dock fires of any consequence at the Port. With the handling of wartime stores, explosives and cased petroleum the fire hazards had greatly increased and in those times of stress the strict routine of peacetime in handling and storing commercial cargoes could not always be fully observed. There was dense fog at Avonmouth during the early hours of Friday the 16th November in that same year 1917. The gloom was soon to be thickened by smoke. Transit Shed A was in effect no more than a section in a continuous run of single-storey sheds that stretched for about thirteen hundred feet along the quay on the east side of Avonmouth Dock. The shed had been duly locked at twenty-past five the previous evening and was unlocked by the regular Police at about a quarter to seven on the morning of the 17th when nothing undue was noticed. The alarm of fire was given by a Port shunting foreman at a quarter-past seven and within ten minutes Dock staff brought hoses to bear on one end of the shed and saved the adjoining shed. The Port dredger *B.D.1* that was moored nearby brought her pumps to bear and the local fire brigade also arrived at half-past seven. A steam fire engine from Bristol arrived a little before eight o'clock and a motor fire engine some time after eight o'clock. With all those helpers including sixty-eight soldiers and over one hundred dockers the fire was under control by about nine o'clock and the extensive range of other transit sheds was saved from destruction. Last to arrive at 8.36 a.m. was the Port Authority's Firefloat *Salamander* that although kept in some readiness took twenty minutes to get up enough steam to leave her berth. Shed A was destroyed and the contents either destroyed or damaged. The loss to Dock property alone was £11,521 2s. 6d. The property of other owners consisted of 300,000 empty jute sacks and bags belonging almost entirely to a Government agency and six thousand bushels of grain belonging to merchants.

In a full report upon the fire, the Docks Committee had to be content with the following information:

> "It has been impossible to arrive at the cause of the fire. A possible theory is that it may have been due to the evolution of marsh gas from the large stocks of jute bags which were stored at the north end of the shed, the end at which the fire clearly originated. Cases have been known of spontaneous combustion in jute bales where water has obtained access to them, but it seems impossible to carry the enquiry further."

The Docks Committee did however call for an enquiry into the tardy arrival of the *Salamander* to be carried further. Of those who had helped fight the fire, sixty-eight soldiers gratefully received five shillings apiece; suitable payments were authorised to 108 dockers. Letters of appreciation were to be sent to thirty-three members of the Dock staff for their valued help. Upon the list of those so to be honoured was the Port Rat Catcher who had lost eight rat cages in the fire. Last but certainly not least on the list was Robert Fenton, member of a family with quite a dynasty in the Docks Engineer's Department. At that time he was "Inspector New Works" and having looked upon the destruction of the old, he was now due to look critically upon the building of the new.

Code words, of significance only to a few, often appear here and there before revolution or change. A code word of change was already to be seen in July 1914 on the bows and sterns of certain coasters at the City Docks. On the seventeenth of that month the *Pembroke Coast* came in from Liverpool. *Pembroke Coast* ?

Surely, a quayside onlooker might have said, that was one of the Bacon Line ships. It was indeed the former *Sir Roger Bacon* of 809 tons gross built in 1912 for the Liverpool firm of J. Bacon Ltd. In 1913 Bacon's owned seven coasters none bearing the code word "Coast". The firm occupied Shed E at Deans Marsh where the northern ornamental façade still presents itself at the recently truncated end of St. Augustine's Reach to the modern flowerbeds of the Centre formerly and appropriately known as the Tramways Centre. Through the two thousand square yards of Shed E, Bacon's had in 1912 put 44,347 tons of Liverpool and coasting traffic. In 1913 F. H. Powell and Company also of Liverpool had owned nine coasters, five of them named after the coast of one or another English county. The *Pembroke Coast* was not of their number. Powell's occupied the Grove Shed of 4,187 square yards and in 1912 put through 80,193 tons of Liverpool and Manchester traffic. It might appear that Powell's had taken over Bacon's but *Lloyd's Register* for 1914–1915 issued on the 1st July 1914 shows otherwise for neither the Bacon nor the Powell ownership is listed. Instead the name of Powell, Bacon and Hough Ltd. of Liverpool appeared as the owners of nineteen steamers of which fifteen were "Coasts". Ten Powell steamers were now within this fleet, six from Bacon's, two from Samuel Hough Ltd. of Liverpool and one from other ownership. The "Coast" steamers of the new company arrived at the City Docks eight times from Liverpool and four times from Manchester in July 1914.

Change, however, did not stop there. Although in June 1916 the new company were resident at Powell's former shed on the Grove, Bacon's remained at Shed E in Deans Marsh. Then in July 1917 a new name appears on the scene. The Docks Committee were then informed that "Coast Lines Limited who took over the tenancy of Shed E when they absorbed the firm of John Bacon Ltd. desire to temporarily discontinue the use of the shed." Their reasons throw a light on the coaster situation in mid-1917. Some of their vessels had been lost, some taken by the Government. It would appear that by this time three of their steamers had been sunk in course of trade and it is believed three more had been lost in Government service. Six replacements had been purchased or built, including the *Welsh Coast*, built at Hill's yard in 1915 at high wartime prices. The cost of wages and stores had also greatly increased. The Company said they could not increase their freight charges because they were in competition with the railways and their trade practically consisted of taking the goods the railways could not take. Furthermore, Government control did not allow the Company to run vessels unless filled with cargo since otherwise the Government took them over. To keep their vessels they had to load a portion of cargo at the Port and then fill up at Swansea. Whilst they fully expected to resume regular sailings after the war, their Bristol Service was left with only one steamer for which the Grove Shed was adequate. The Docks Comimttee did not agree to take back Shed E temporarily, no doubt because incoming ships and cargo were not by 1917 frequent enough at the City Docks and the Coast Lines could use the shed purely for warehousing with no more difficulty than could the Docks Committee.

In *Lloyd's Register of Shipping* for 1918–1919 the name of Powell, Bacon and Hough Ltd. was no longer to be found. Instead Coast Lines Ltd. of Liverpool owned the fleet now consisting of only seventeen steamers. By 1919–1920 the Coast Lines' fleet had grown to twenty-one ships. The thirteen Princesses owned by Langlands of Liverpool in 1910 had as if in reflection of European events dwindled to eight and with Nobel's *Lady Tennant* and the steamer *Silver City* added up to a fleet of ten, while Bazeley's of Penzance were left with three ships. By the time of the issue of *Lloyd's Register* for 1920–1921 the Coast Lines' fleet had grown to thirty-two steamers and therein were to be found seven of Langlands' Princesses with the *Lady Tennant* and three steamers once belonging to Bazeley's. So the names of Langlands who before the war had run the service from the City Docks to the north-east coast and to Aberdeen and of Bazeley who kept the Port linked to the South Coast ports and London now appeared no more in the list of owners. The Coast Lines had arrived as a new force in British coastal shipping.

Of the five steamers bearing the name "Coast" that came twelve times in all in July 1914 to the City Docks from Liverpool and Manchester, only the 1913 *Suffolk Coast* of 780 tons gross and 346 tons net was sunk by enemy action in the course of trade when captured by a submarine fourteen miles off Cape Barfleur on the 7th November 1916. The *Somerset Coast* formerly Powell's 1909 *Graceful* of 782 tons gross was replaced by a ship of the same name built in 1920. Stone and Wells say the *Somerset Coast* was lost by enemy action. By omission from the Government list it was presumably lost during Government service while armed for offensive purposes. The *Wirral Coast*, 640 tons gross, that traded between the City Docks and Manchester and was formerly Powell's 1907 *Truthful*, does not appear in the Coast Line's post-war list. The *Monmouth Coast*, 874 tons gross, formerly Powell's 1906 *Faithful*, and the *Pembroke Coast*, 809 tons gross, built for the Bacon Line in 1912, both arrived at the City Docks in July 1914 and came safely through the war. The *Monmouth Coast* has already been mentioned as taking part in the First Movement and leaving Avonmouth on the 13th August 1914 to take sixteen vans weighing forty-five tons to France.

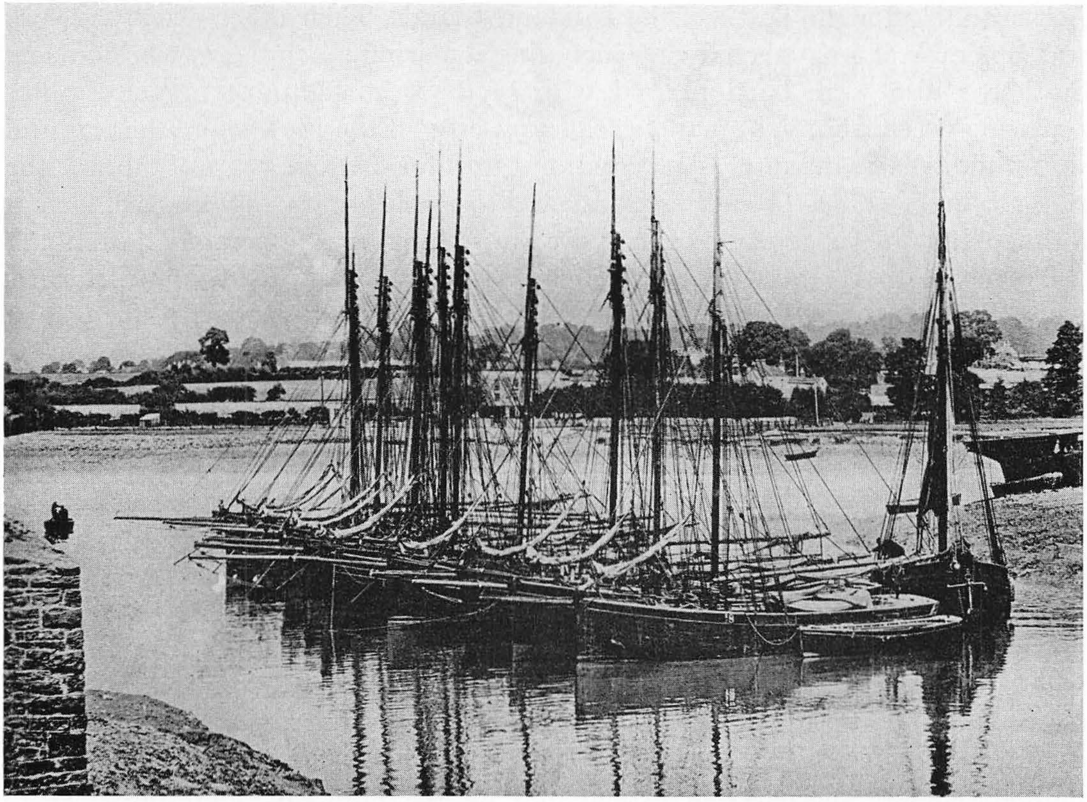
The *Western Coast* of 1,166 tons gross and formerly Powell's 1910 *Hopeful* was not a July visitor in 1914 but came into Avonmouth from London as a "Transport O.H.M.S." on the 17th August. The steamer left on the 20th August, too late to be strictly classed as part of the First Movement, with a cargo of 1,323 tons of petroleum and 202 tons of lamp oil in cases and casks. Most of the steamers of the First Movement left with motor vehicles and so forth of a weight far less than their carrying capacity, but the *Western Coast* with a net tonnage of 487 tons was certainly well laden with a cargo of 1,525 tons. The *Western Coast* made one more visit as a transport on the 19th September that year, but on the 24th February 1915 when back in merchant service was sunk without warning eight miles south-east of Beachy Head. Another frequent visitor to the City Docks, though not in July 1914, was the 1910 *Norfolk Coast* of 782 tons gross formerly in the fleet of F. H. Powell and Co. This steamer was sunk with the loss of eight lives when torpedoed without warning on the 18th June 1918 twenty-three miles south-east from Flamborough Head on the Yorkshire coast.

In 1914 P. and A. Campbell's White Funnel fleet of thirteen pleasure steamers was based upon the City Docks and these smart and well-kept paddle steamers that ranged throughout the Bristol Channel formed one of the finest pleasure fleets in the kingdom. The entire fleet was soon requisitioned by the Government for use in mine-sweeping and in the search for German submarines. Most of the work of equipping these pleasant steamers for their grim tasks was carried out at the Hotwells Dockyard of G. K. Stothert and Co. Their dry dock on the north or Hotwells side of the Floating Harbour adjacent to the Merchant Venturers' former wet dock of the eighteenth century, was 330 feet in length with a width at entrance of 57½ feet and a depth of water on the sill of 14 feet. Charles Hill and Sons' Albion Dock some five hundred yards up the Harbour on the south side was 547 feet in length, 52 feet wide at entrance where there was a depth of 14½ feet on the sill. Close to the Albion Dock was the Corporation or Wapping Dry Dock, 325 feet in length with an entrance width of 48 feet with 11½ feet of water on the sill. The necessity for the Royal Edward Graving Dock of 1908 is shown by the length of 875 feet and the entrance width of 100 feet with 32 feet of water on the sill. Even before the Royal Edward Dock was actually opened, the Bristol ship-repairers John Shearman and Co. Ltd. had taken a lease of land alongside the new dry dock, G. K. Stothert's quickly followed and in 1909 J. Jefferies and Sons Ltd. also leased land for their ship-repairing business until then carried on at the City Docks. During the 1914–1918 war the shipyards at the City Docks and at the Royal Edward Dock were set endless naval and marine tasks. By 1919 Charles Hill and Sons had built at their Albion Dockyard twelve steamers, two of 1,064 tons gross and ten from 2,339 tons gross up to their own *New York City* and *Boston City*, each of 2,736 tons gross. Like the three other ship-repairers their tasks were legion and included the repair of more than 400 merchant vessels many of which were war-damaged. Among so many other tasks, Jefferies at the Royal Edward Dock rapidly stripped out three of Elders and Fyffes' ships to turn them into auxiliary cruisers and adapted many other steamers to be troop transports and mule carriers, hospital ships, decoy ships and so on. This company alone repaired and adapted 620 ships with a total tonnage of about 2,750,000 tons gross. John Shearman's had to employ one thousand men on the single task of overhauling and altering the cruiser *Cornwall* that came to

Avonmouth after the Battle of the Falkland Islands. Their other extensive work was generally of a naval character including repairing much heavy war damage. Stothert's also were hard pressed with such work of utmost urgency. Ship-repairing was hardly in a state of great prosperity at the Port before the war and ship-building was definitely depressed, but now for the four years of the war the ship-repairers were to be endlessly busy and to employ many thousands of men at a time when the cargo trade of the Port was sinking to a desperately low ebb.

To return to P. and A. Campbell's pleasure fleet their *Devonia* and *Brighton Queen* had been fitted out and sailed from Cumberland Basin by the end of September 1914. These first white swans of Avon, like those to follow, were painted a drab naval grey. The *Brighton Queen* was not to return. Fortunately there was no loss of life when this shallow-draughted paddler was mined off the Flanders coast near Nieuport on the 6th October 1915. The *Cambria*, the *Glen Avon*, the *Lady Ismay* and the *Westward Ho* went to their war tasks in December 1914. In February 1915 the *Britannia* and the *Glen Usk* and in July the *Ravenswood*, the *Albion* and the *Barry* sailed from the Port for war duties. The *Waverley* and the *Glen Rosa* were the last to be adapted and depart. These ships that sailed away were manned by men from Bristol and nearby. "Nearby" is a necessary word to include that remarkable assembly of houses and alehouses around Pill Creek two miles up the River Avon on the Somerset side. To class as Bristolians the maritime men of Pill—captains, pilots, quondam pirates, seamen, boatmen, hobblers, ships' engineers, ferrymen and all the nautical what-you-wills—to class these men Bristolians would be a pillory offence. In the course of the war the Campbell steamers were to sail in all the seas north, south, east and west of Britain upon their dangerous tasks of mine-sweeping and searching for German submarines. Their adventures were too many to be recounted here. The *Lady Ismay*, blown up on the 21st December 1915, was the only other of the White Funnel Fleet to be lost in the war and, as with the *Brighton Queen*, all her crew were safely rescued.

It is not claimed that herein are recorded the names of all ships that were accustomed to frequent the Port and were lost by enemy action in the war from 1914 to 1918. Nor is there space to record much already found or that might yet be found of the wartime happenings to the ships whose loss has been recorded. Moreover, beyond the horizon of any man's knowledge there are tales now never to be told of the courage, of the despair and of the cold endurance of the men of our Merchant Navy who faced such peril as had not hitherto been known to lie in wait within the seas and oceans of the world.



Pilot Skiffs in Pill Creek

The time is early this century or even a few years earlier. We are looking at the elegant specialised craft in which pilots of Pill almost unbelievably went far beyond Lundy even to Fastnet or beyond to find and bring to port ships inward bound for Bristol. The Pill pilot craft were evolved for their purpose through long years of Atlantic weather; they are pedigree craft and even at their moorings in the Creek have the air of greyhounds straining at the leash. Like the great sailing ships they so often went to meet, they were part of the poetry of the sea.

The Corporation of Bristol entrusted a Pill man, James Ray, to pilot John Cabot's *Mathew* from Bristol Harbour on the voyage of American discovery in 1497. In 1611 the Corporation delegated pilotage powers to the Society of Merchant Venturers but after 1861 resumed control. Pilotage is compulsory to eastward of a line from Walton Bay Signal Station to Gold Cliff Point on the opposite coast east of the River Usk entrance to Newport. A Pilotage Committee and not the Docks Committee administers pilotage affairs and the by-laws under which Bristol pilots and their craft are licensed. In the early 1920's a steamer cutter service began to replace the sailing craft.

Pill Ferry continued as for centuries past to take people to and fro across the River Avon. Upon the opposite bank there can be seen beyond the masts the Lamplighters Inn, but the surrounding fields, hedgerows and trees of Shirehampton have long since been replaced by houses except along the riverside.

XXV

Reflections:

1919

So the war was over. Victory and defeat are words that on occasion can be true of the conflict of armies or navies. But after modern wars the fruits of victory, unlike the consequences of defeat, are mostly found to be illusory. Yet within these islands those of us who doubted this was "the war to end all wars" knew that among our gains and losses we had been granted a new lease of our liberty.

As we look back at the Port in wartime, we remember the first embarkations for France of part of the British Expeditionary Force and the haste with which the Royal Naval Division and the 29th Division went from the Royal Edward Dock to be the spearhead of the attack upon the beaches of Gallipoli. In each of the Port years ending in April 1915 and April 1916 the tonnage of overseas shipping for the purposes of both war and commerce was nearly double that of the peacetime year that ended in April 1914. Yet owing to the light quantities brought in by Government transports the total cargo from overseas in each of those two years was little more than in the year up to April 1914. The year to April 1917 showed a recession from the previous two years in overseas shipping and imports and thereafter Germany's intensive submarine campaign caused such a decline in shipping and cargo at the Port that by April 1919 more than all the trade gains from 1900 to 1914 had been lost. In the Appendix, Table 1 showing the Port trade figures from 1914 to 1919, also shows the figures for 1900. Throughout the war the amount of overseas shipping and cargo arriving at the City Docks drastically declined year by year and the coastal trade of the Port was roughly halved.

The Avonmouth Docks despite the availability of the Royal Edward Dock from October 1908 was by no means the trade centre of the Port up to 1914. In the last Port year before the war nearly 1,700,000 tons of goods came into the City Docks from overseas and coastwise. Avonmouth received little more than 1,100,000 tons. Even in overseas trade the 877,000 tons arriving at the City Docks outstretched such Avonmouth trade by 70,000 tons. Many City merchants had their own warehouses in Bristol while the Port had the Princes Wharf Granary, two great Tobacco Warehouses and quayside ranges of transit sheds. There were no merchants' warehouses at Avonmouth. Furthermore, the Royal Edward Dock had recruited only one flour mill, that of the Co-operative Wholesale Society, an addition that did nothing to endear Avonmouth to City millers and grain merchants who met on Tuesdays and Thursdays behind the handsome façade of the Bristol Corn Exchange. In 1914 the Avonmouth Docks were rather parvenu in the minds of citizens as compared with the traditional, bustling, visible City Docks.

But to those who knew shipping trends, the statistics for the last peacetime Port year held disquieting information amid the display of prosperity at the City Docks. Truly enough 877,000 tons of goods from overseas came into the City Docks against 808,000 tons into the Avonmouth Docks. Moreover, 662 ships from overseas came up the River Avon to Bristol whereas only 261 such ships turned aside into the Avonmouth Entrance Locks. The sting came, to the acute observer, in the fact that the net register tonnages of those 662 City Dock ships was only 587,000 tons against the 866,000 tons of the 261 Avonmouth ships from overseas. We can leave the 1914 advocates for the City Docks pointing out that shipowners like their ships well loaded and that for every ton of shipping coming into the City Docks about one and a half tons of cargo were brought whereas at Avonmouth for every ton of shipping rather less than a ton of cargo was carried. That was a good point for the City Docks in 1914, but it was not the significant point for the future whether in peacetime or in war. The average size of the City Docks ship from overseas in 1914 was 888 net register tons, the average size at Avonmouth that year was 3,318 net register tons. And the average size of cargo in from overseas at the City Docks was 1,325 tons as compared with 3,096 tons of cargo at the Avonmouth Docks. Cargoes exceeding this average Avonmouth cargo had certainly been brought to the City Docks on occasion, but a ship of the average Avonmouth size could not voyage to the City Docks since the limit for navigating the River Avon in good conditions was a length of 327 feet between the perpendiculars although ships of somewhat greater length could arrive under favourable conditions. With a trend to larger ships and larger cargoes the future of trade expansion at the Port lay with Avonmouth where by 1914 the capacity of the Royal Edward Lock had not by any means been put to maximum use even by the Canadian liners *Royal Edward* and *Royal George*.

Although for most of the war the trade at Portishead Dock increased by more than half the annual overseas imports there of 154,000 tons in 1914, it was upon the Avonmouth Docks and in particular upon the Royal Edward Dock that the burden of wartime traffic chiefly fell. In commerce from overseas, the number of arrivals fell year by year from 261 ships in the Port year ending in April 1914 to 211 ships in the year to April 1917 and then to 159 ships by April 1918 and 160 ships by April 1919. The 1914 shipping tonnage at Avonmouth of 866,000 tons net had fallen to 595,000 tons net in the year to April 1919. Now the size of these ships of commerce at Avonmouth actually declined slightly during the war from the average of about 3,300 tons net in 1914 until in the 1918 and 1919 Port years the figure rose to about 3,700 tons on average. It is surprising then to find that in the war years the trade imports of 808,000 tons at Avonmouth in 1914 were nearly always surpassed. During the five years to April 1919 the annual trade figures were 877,000 tons to April 1915, 912,000 tons to April 1916, 873,000 tons to April 1917, then 793,000 tons and 840,000 tons in the last two years. As the number of ship arrivals lessened during those five years and the average size of ship did not increase until 1918 and 1919, it was the increase year by year in the average size of cargoes that kept up the imports from overseas. From the average cargo of 3,096 tons at Avonmouth in the 1914 Port year, the figures for the next five years were 3,440 tons, 3,950 tons, 4,140 tons, 5,000 tons and 5,250 tons for the year up to April 1919. Meanwhile at the City Docks the 662 ships that brought 877,000 tons of overseas cargo in the 1914 Port year had declined by April 1919 to the annual figure of only 131 ships bringing from overseas only 141,000 tons of trade cargoes.

By the end of January 1920 the last transport O.H.M.S. had come and gone. By then 2,122 transports of 5,067,000 tons net had brought in 582,000 tons of war traffic and taken out 1,002,000 tons. Nearly all this traffic went through the Avonmouth Docks. Sixty-four hospital ships came into the Royal Edward Dock from February 1917 until July 1918. Up to the 31st July 1918 the number of those passing through the Port upon duty in the affairs of war was 203,337 persons and 51,166 vehicles for war purposes also went through up to that time. No figures for men or vehicles seem to be available after that date. As for the willing horse and the doubtful mule, 312,289 came in by sea and 30,431 were outward bound up to the end of this wartime traffic in April 1919. The weight of Government and requisitioned vehicles and of horses and mules has been included in the weight of war cargoes already given.

The average size of ships O.H.M.S. was no more than 2,400 tons net and in general their cargoes inward or outward were smaller than commercial cargoes. When we note that the average size of Avonmouth ships of commerce only rose to about 3,700 tons net in the last years of the war, it may be thought that wartime shipping did little more than the Royal liners pre-war to demonstrate the capability of the Royal Edward Lock with a length of 875 feet and a width of 100 feet. But averages useful though they are, reveal neither the high nor the low figures. Fifty-four steamers of a length of 500 feet and over had entered the Avonmouth Docks since August 1914 and their names with gross tonnage and length are listed in Table 2 of the Appendix. The names of many will be recognised as troop transports, but many came with overseas cargo. The list comes from Ross-Johnson's Annual Report in 1919.

The Port was well served by eight men who were members of the Docks Committee throughout the war. Collectively they were men of an ability to compare with any Docks Committee before or since. Their careers have been described in my previous book *The Turn of the Tide: 1900–1914*. It is only relevant here to say that Alderman Twiggs, Chairman since 1908, had at the outbreak of war been a member of the Docks Committee for nineteen years, Alderman Sir William Howell Davies, M.P., the previous Chairman, had been a member for twenty-six years and Alderman Edward Parsons for twenty-three years. All three were liberals and their ages ranged from fifty-eight years to sixty-two years. These three senior members were thus still in their business prime. By August 1914 Councillor Dyer had become an energetic and knowledgeable Docks member, fifty-seven years of age with ten years of Dock membership. Major Mark Whitwill, shipowner and shipbroker, and Sidney Humphries, miller, were also fifty-seven years of age. The first-named had been for seven years a member of the Docks Committee and the second for four years. Of the eleven members of this Committee these two were the only ones who could be said to have daily contact with dock affairs in the course of their own businesses. Councillor Samuel Iles, sixty-eight years of age, and Councillor C. T. Budgett, forty-eight years of age, would as provision merchants have some knowledge of the docks from their trade angle. At the outbreak of war they had been on the Committee for six or seven years. A ninth member Alderman C. A. Hayes, sixty-four years of age, had been on the Docks Committee for nine years and had a large and successful business as a contractor and builder.

COUNCILLOR C. T. BUDGETT
Docks member, 1908–1926

To this wealth of experience and acumen there had come some little time before the war two new members. Councillor Moore, an extensive builder of house properties in the developing areas of Knowle and Brislington, was forty-nine years of age when he began his long innings with the Docks Committee in November 1912. Last and least in usefulness to the Dock cause, came Councillor Ayles in November 1913. He was thirty-five years old and local secretary of the Independent Labour Party. Whilst it is true to say he had more idealism than practicality, he certainly brought a minority view to Dock deliberations though it is doubtful if his own particular views

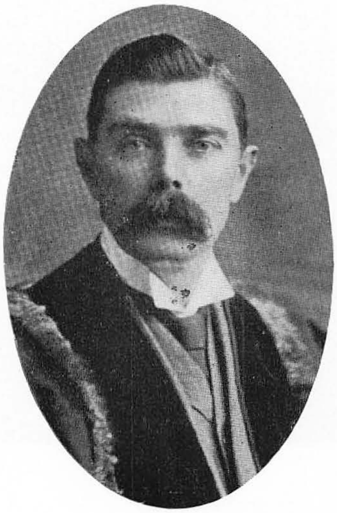
COUNCILLOR MARK WHITWILL
Docks member, 1906–1921

Alderman H. W. Twiggs, J.P.
Lord Mayor of Bristol, 9th of November 1918–10th of November 1919.
Chairman of Docks Committee, 1908–1924.
Chairman, Employers' Labour Association of the Port of Bristol.

were really necessary to a Docks Committee of eleven that had six Liberal members at a time of active Liberal reform. No 1910 member of the Docks Committee was likely to forget the inflammatory and impractical orations of Mr. Ayles to dockers during the Dock strike at Bristol in that year. The Docks Committee from those days of Liberal ascendancy has customarily had the habit of calmly absorbing and almost not noticing "hot air" from whatever member it may come. The members were there to transact Dock business. Now Councillor Ayles was an ardent pacifist. He was devoted to the abolition of war and all sensible men will say "Amen to that" but keep their powder dry. Whether or not his public speeches against our fighting the war were as immoderate as his diatribes in the 1910 strike we do not know, but his actions resulted in his spending time in seven prisons. What we do know is that whilst remaining a member of the Committee he was absent from five meetings between the 3rd July and the 25th September 1916 and that his last wartime attendance in the Board Room at Queen Square was on the 23rd October 1916. Yet he remained a member throughout his absence during the remainder of 1916, throughout 1917 and 1918, and then returned, "demobilised" as it were, at the meeting on the 26th May 1919. Even for a man of his principles there were other more worthy things to do during the war as many other such men did.

Councillor Sidney R. W. Humphries
Docks member, 1909–1928

Of the eleven men who were summoned to the first wartime meeting of the Docks Committee on the 10th August 1914, eight were to serve on the Committee throughout the war with Councillor Ayles detained elsewhere from 1916 onwards. Upon the death of Councillor Iles in 1915 his place was taken by a former Docks member Alderman Levy-Langfield, a City draper, and when Alderman Hayes died early in 1916, another former Docks member Alderman H. F. Cotterell, a Bristol wall-paper and paint merchant, was appointed to the Committee. When he resigned in November 1917 he was succeeded by Councillor Tom Butler who had been a Docks member from 1907 to 1909 and was a director of William Butler & Co. Ltd., whose tar and



Councillor Frank Moore
Docks member, 1912–1944

oil distillery was on the banks of the Avon in the Crews Hole gorge between the Netham and the Hanham locks.

Towards the end of the war there were three thousand six hundred men registered as dockers at the Port and Bevin said he had another five hundred Bristol dockers due to return from the war. The pace of demobilisation of men from the armed forces may be measured by the rate at which the Port's permanent staff came back from the war. Some men were back at work as early as January 1919 and it would appear that all those who were going to return to the Port's permanent staff were back by November 1919. There is no reason to think that the unrecorded return of casual dockers was much different. During the course of the war 267 permanent staff joined the armed forces. Their names with former post, service rank and unit are shown in Table 3 of the Appendix. The names of the twenty-nine men who died in the Army, Navy and Air Services during the war are distinctively shown.

Now Ross-Johnson and Bevin had not forgotten their unavailing efforts before the war to bring in a scheme of decasualisation for the dockers so as to give them a more settled livelihood. A Bristol Port Labour Committee of employers and union officials had been set up early in the war to deal with questions of military exemption at the Port. That Committee was quickly in action after the Armistice of November 1918 for another purpose and by the 31st March 1919 a registration scheme for casual dockers came into force. Briefly, the three thousand six hundred men who were already registered for dock work at the Port and accordingly held Record Books came into the new scheme. So did those men who had previously worked on the Docks and were now being demobilised from H.M. Forces. No other men would be employed as dockers and all men registered under the scheme were to be members of the Dockers' Union. There were arrangements whereby unregistered labour could be employed both in time of shortage of labour or for those tasks which registered dockers customarily refused such as unloading banana boats. This new registration was not designed to bring about decasualisation but it was intended to offer more regular employment to those men who looked to gain their living as dockers. The scheme was a notable advance at the Port in the attempts to bring some order into a difficult industry and it was a foundation upon which better things might be built. The result of the scheme was that by the end of 1919 there were at the Port not four thousand one hundred but four thousand four hundred registered dockers.

In the varying conditions of locality and family life it was difficult to estimate how much the cost of living had increased since 1914. Based on the figures of the *Board of Trade Labour Gazette*, if the annual cost were £100 in 1914, the cost at the end of 1919 would be £236. *The Economist* considered that the 1919 figure on a wider basis would be £287. Whoever first thought up the idea of a Cost of

Living Index should be canonized on behalf of any lightly employed political economists.

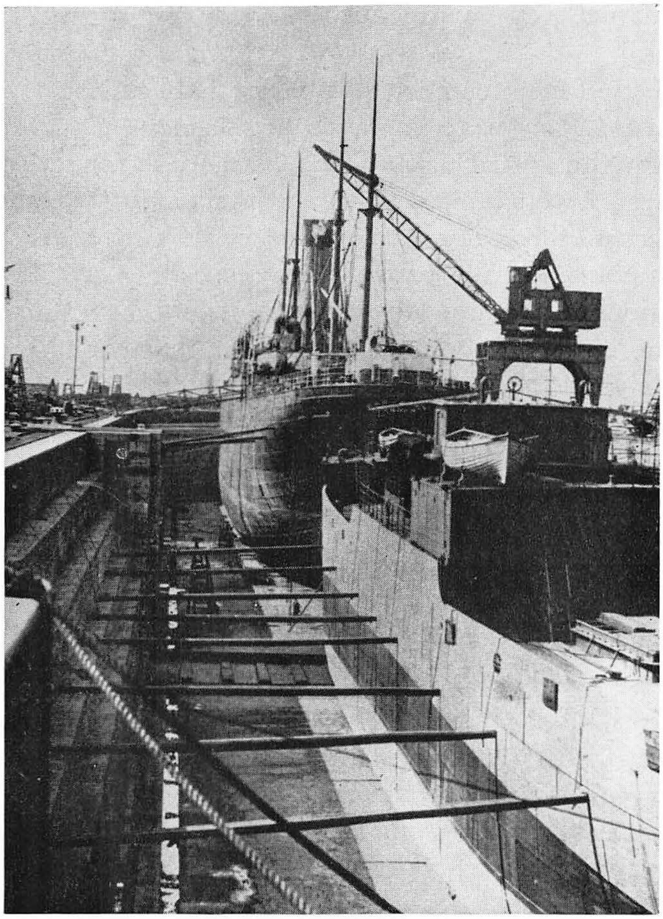
In Chapter VI, "The Spiral Begins", a number of Bristol food prices at the outbreak of war were mentioned. They are now set out again and against them is set the Ministry of Food prices at the end of 1919.

	1914	*1919*
Bread 4-lb loaf	5½d. or 6d.	9d.
	per lb	*per lb*
Butter	1s. 6d.	2s. 6d.
Cheese, colonial	9½d.	1s. 6d.
Bacon, English	1s. 6d.	2s. 6d.
Margarine	10d.*	1s. 2d.*
Sugar, granulated	4d.	8½d.
Coal per cwt.	1s. 0d.	2s. 6d.*

* *Evening News.*

In 1914 wages accounted for 35 per cent of the Port's total expenditure and were only exceeded by the 42 per cent taken by the interest rates of 2½ per cent to 3½ per cent on capital borrowed for dock works and heavy equipment. In the Port year to the 30th April 1919 wages took the lion's share at 48 per cent whilst unchanged interest rates on borrowed money only claimed 29 per cent of the Port's total expenditure. In the meantime the day rate for general cargo men that had been calculated at 7d. per hour in 1914 had increased by 1919 to 1s. 9d. per hour and the Docks Committee were told in April 1919 that these figures measured the increase in the pay of other sections of dock employment at the Port.

By the end of the war a large number of the more able dockers had gone into the Army. Their places had been taken by men of lower medical category. Many had little or no previous experience of the work they were called upon to do. The result was a drastic fall in output. Ross-Johnson measured this loss of output by taking the tonnage returns of general cargoes landed from similar steamers coming from North Atlantic ports. The figures were in respect of timeworkers doing work during ordinary working hours only. The steamers were those such as the *Turcoman* and *Cornishman* regularly employed by the British and North Atlantic Steam Navigation Company. From October 1913 to July 1914, eight steamers had 10,243 tons of cargo landed at the average rate of 14·2 cwt per hour for every man employed. For the six similar steamers that brought 6,882 tons of cargo between October 1915 and January 1917 the average hourly rate for each man employed fell to 11·2 cwt. One would look for some improvement from May to December 1919 when eight such steamers had landed 17,189 tons of general cargo during ordinary working hours, but in fact the timeworker's average rate per man hour was exactly the same as during the war



Royal Edward Graving Dock

At the far end of the 875-foot Graving Dock is the *Parisian*, 7,548 tons gross and 483 feet long, that was formerly the *Bethania* of the Hamburg-American Line. The *Parisian* arrived from Boston on the 8th April 1919 with grain and general cargo and remained for refitting at Avonmouth at one berth or another until September.

The nearer ship is the *War Apple*, 2,400 tons gross and 303 feet in length, that came in on the 26th June for fitting out after leaving the slipway of the National Shipyard at Chepstow. Such shipyards were constructed late in the war to help replace our shipping losses. There was another across the Severn at Beachley and slipways were also laid at Portbury on the Somerset side of the Avon opposite Avonmouth Dock.

In the Port year to the 30th April 1914, 56 ships of 282,000 tons gross entered this Dry Dock; in the Port year 1915, 43 ships of 216,000 tons; in 1916, 83 ships of 398,000 tons; in 1917, 80 ships of 320,000 tons; in 1918, 28 ships of 171,000 tons; and in the year to the 30th April 1919, 56 ships of 349,000 tons. Many were transports or fighting ships including the cruiser H.M.S. *Cornwall* after the Battle of the Falklands.

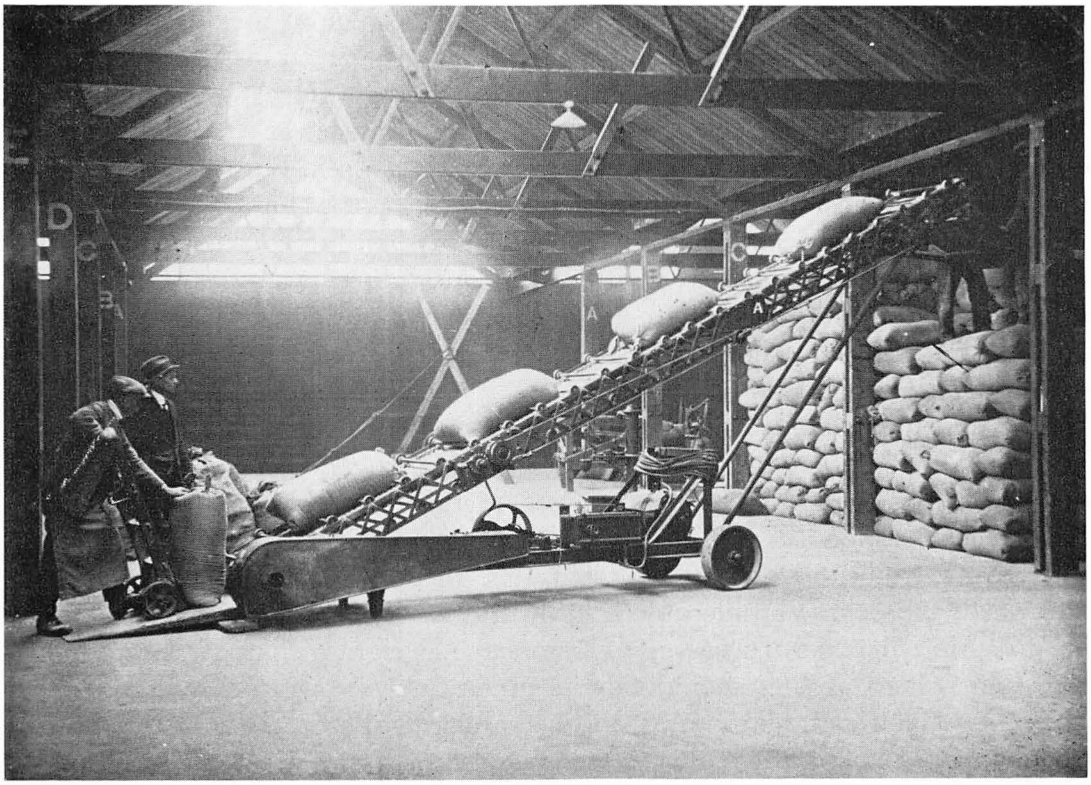
period quoted, namely, 11·2 cwt. Thus the hourly output was less than pre-war by about one-fifth.

The Bristol City Line steamers of Charles Hill & Sons were also on the North Atlantic run. They were unloaded at the modern two-storey Shed Y at Canons Marsh in the City Docks. The Company's comparisons showed that three general cargoes were landed by timeworkers in 1917 at the rate of 8·2 cwt per man per hour and three more general cargoes in 1919 gave an average rate of 6·4 cwt per man hour, a loss of output of 22 per cent in 1919.

Some calculations more than fifty years later may seem much simpler but at least they are more comprehensive. In the year that ended on the 30th April 1914 the total weight of all cargoes foreign and coastwise in and out of the Port was 3,759,000 tons. In the calendar year 1919 the total weight of all cargoes was 2,604,000 tons, 70 per cent of the 1914 tonnage. The average number of casual dockers employed daily throughout the Port in 1919 was 3,125 men according to Ross-Johnson and that was very close to the average daily employment in the Port year to the 30th April 1914. We thus get on this broad basis a loss of output of 30 per cent from casual workers in the calendar year 1919. It will be argued that casual dockers had to work much too hard in 1914 and some relaxation in their arduous tasks was overdue. It should be remembered, however, that the calculations of Ross-Johnson and of Charles Hill in the last two paragraphs were for timeworkers paid by the hour or the day and timeworkers felt little of the urgency of the pieceworkers.

By 1919 casual dockers were being paid about three times as much as in 1914 for an average output that was 20–30 per cent less than in 1914, so that the true labour cost of the casuals was about four times more than in 1914. For the Port Authority almost every other cost, except the interest rates on borrowed capital, had also gone up substantially. Throughout the war the Port had found it necessary from time to time to put up its charges as the tide of cost increases rose and rose. By April 1919 nearly all the dues charged by the Port on ships to or from overseas had been put up by 50 per cent. On overseas goods the increases had reached 100 per cent. Coastwise trade was very much in decline for reasons that included the subsidies to railway rates by the Government. The Port had therefore made no increase in the dues on coastal ships or cargo. The highest rate of increase made by the Port was necessarily for labourage operations for which by 1919 traders paid 120 per cent more than in 1914. Port warehouse rentals for goods stored were 50 per cent over the 1914 charges. No one needs telling in these days that all these increases seeped back into the cost of living.

Of the 4,400 casual dockers on the register, 3,125 men were on average employed daily towards the end of 1919. Ross-Johnson and Bevin agreed that a casual worked at the Port on average four days out of a 44-hour week of five and a half working days. Incidentally, a national estimate reckoned that in 1919



SACK PILER

THE PILING OF GOODS for storage in shed or warehouse was a task that needed a good deal of manual labour and involved much heavy lifting and carrying as the height of the stack grew. In August 1917 the first electric sack piler was ordered from Henry Simon Ltd. for the sum of £235 and after the usual wartime delay was delivered in 1918. This type of equipment both saved labour and eased the burden for men so employed.

there was a labouring population of about 125,000 men at all the ports, docks and harbours of the kingdom as well as at 874 creeks, estuaries and so on in which loading and unloading of ships and craft took place. To return to the Port, the minimum wage in 1919 for dayworkers or pieceworkers was 14s. a day or £2. 16s. od. a week for the average of four days a week. But this was only the minimum wage before adding any overtime or extras for dirty or difficult conditions. For the pieceworker, of course, the 14s. was only a net below which he could not fall for a day's work at the appropriate piecework rate. Bevin is on record as saying that normally in 1919 a registered casual could work five days a week, but some did not want regular work. Moreover, he added, the best dockers had almost regular employment.

The return workman's railway fare to Avonmouth in 1919 was 6d. a day. Many will remember the wooden seats in workmen's carriages. The majority of casuals at the Avonmouth Docks lived in Bristol and came down by train. Trains left the likely Bristol stations at around seven o'clock in the morning and the journey would take about forty minutes. In the later years of the war and afterwards there was considerable trouble and loss of output through late starts aboard ship where work was due to commence at eight o'clock in the morning. The time when housing should fill the green fields between Avonmouth and Bristol was looked forward to as another and useful step towards the earthly paradise that like a mirage always seems to recede as we draw near. Yet could the new housing have come forthwith as by wave of a magician's wand, it would not have cured bad timekeeping later in the day. Nor was this all.

The registration scheme of March 1919 relied upon the co-operation of the Unions and the whole-hearted efforts of the dockers. To quote the Docks Annual Report, delayed that year until the 1st September 1919,

> "... under the system of registration of labour now prevailing the efficient carrying on of the work of the Port must depend in the first place upon the maintenance by the Unions of a sufficient supply of labour to meet requirements, and in the second on the good faith of the members of the Unions in affording the full measure of their services. The result of the introduction of the shorter working week and of the efforts of the leaders to carry out their part of the undertaking has been disappointing. The time-keeping has very seriously deteriorated, while the intensity of effort during the extremely short working period obtained in practice has shown a most material reduction. There has been an increasing tendency also on the part of one section after another to take advantage of the high earnings and the artificial restrictions of the labour supply to refuse to work reasonable overtime, to make demands for increased wages and to decline arbitration, and if these demands are not immediately acceded to, and in some cases even before discussion, to stop work in disregard of the instructions of their leaders. Some of the demands it

> has been impossible to meet, and these unauthorised stoppages have not only had the result of depriving of employment other workers not directly concerned with the claim, but also have had a most detrimental effect on the revenue of the undertaking, lengthening the period of the turn-round of ships, and thereby preventing other ships from coming in to take their places, to the loss of their dues, addition to merchant's costs, and further addition to the cost and delay of getting the imported foodstuffs into the centres of consumption."

To pursue these matters would take us into the problems of peace whereas we are here concerned with little more than the immediate aftermath of war.

The shortage of empty railway trucks coming to the Avonmouth Docks for loading continued and goods wanted inland were held up in dock granaries and warehouses. In the Port year to the end of April 1914 Dock locomotives at Avonmouth hauled 777,000 tons to and from the Exchange Sidings where trucks to or from inland railway stations were assembled. Another 110,000 tons of internal traffic was hauled that year between points within the Docks. During the Port year ending in April 1915 Dock locomotives took 838,000 tons to or from the Avonmouth Exchange Sidings, 1,008,000 tons in the Port year 1916, then 983,000 tons up to the 30th April 1917. Rail traffic to or from the Exchange Sidings fell to 951,000 tons by April 1918 and then down to 672,000 tons in the Port year to the 30th April 1919, a figure less by over one hundred thousand tons than the traffic to or from the railway companies' lines five years before. Ross-Johnson reported that during the war there were many occasions when mills had to stop because they could not get their raw material from the Docks. "Towards the end of the war the Royal Commission on Wheat Supplies erected large sheds of their own for the storage of Government wheat, and these have made it possible to hold larger quantities in the Docks, but have not in any way met the point that the consumers cannot obtain their supplies."

With the end of the war, much of the Government's surplus wartime property and equipment was coming on offer. As early as February 1919 the Wheat Sheds had been offered for sale to the Port, but the Docks Committee declined to purchase since they were in no hurry to buy the four long sheds that were badly sited for dock warehousing, had inadequate sidings and worst of all had floors at ground level without railway platforms. It would have required many thousands of tons of rubble and then of concrete to bring the floors up to a level where goods could be trucked direct into or out of railway rolling stock; furthermore, by the height of any raised floors the shed walls would have had to have been built that much higher. Labour and railway trucks were just not available for that costly extra work when the sheds were built in the autumn of 1917. Even the Dockers' Union were concerned that the Docks Committee should not purchase the Wheat Sheds for warehousing lest many backs might thereafter be bent to heavy lifting. So the purchase of the Wheat Sheds lay as yet in the future; meanwhile the Docks Committee did not slam the door on the possibility of later negotiations.

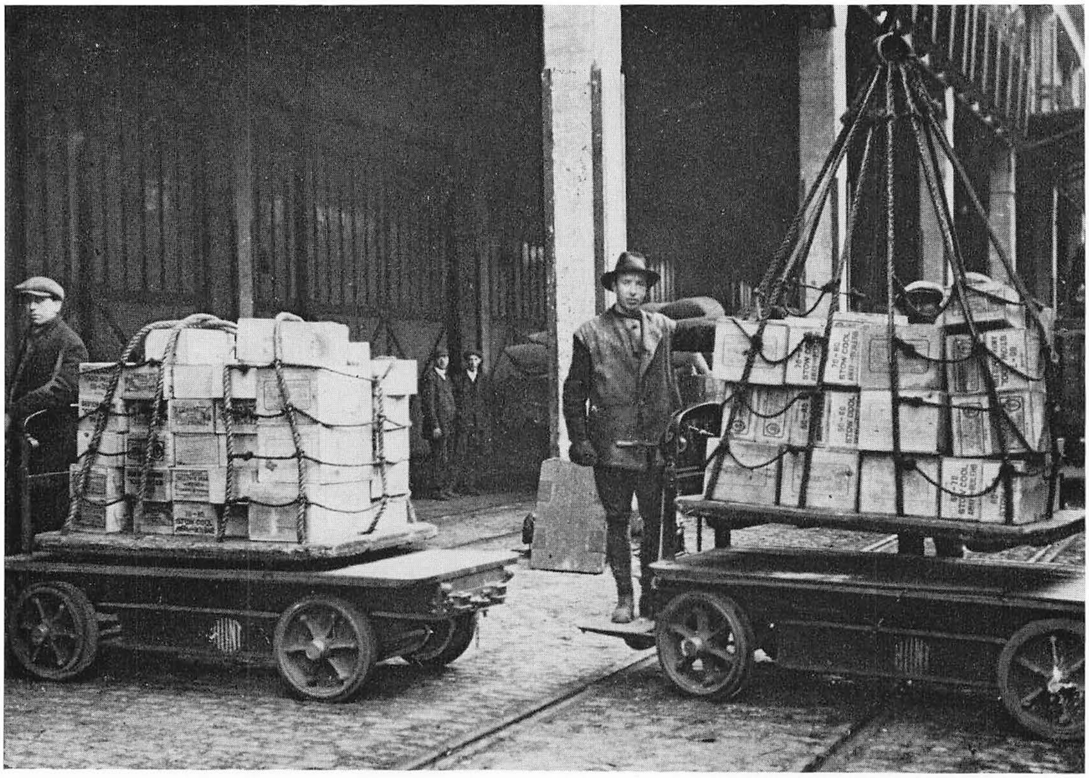
The Army Base Supply Depot was a different proposition. By the early summer of 1915 much valuable transit shed space was still being occupied by Army stores that came from inland and sooner or later were to a large extent going back inland. The Docks Committee then persuaded the War Office to build a Base Supply Depot. The building was sited near the Royal Edward Granary, covered three acres and cost £25,000. Moreover, the Depot had railway sidings running through it and the raised floors enabled goods to be trucked into and out of railway trucks and vans. The War Office bore the cost but at the time of building the Docks Committee made an agreement to purchase the depot at the end of the war at pre-war construction cost. In July 1919 negotiations began under that agreement and with a pre-war value of £19,200 less depreciation as surveyed at £7,200, the purchase price was fixed in March 1920 at £12,000. The Army Base Supply Depot thus became the Royal Edward Warehouse for General Goods. The siting of the warehouse away from quayside meant that imports would be brought in Dock trucks either direct from ship's side or often enough from transit sheds after goods had been landed from ship to shed in order to be sorted into lots bearing their particular marks. This would involve the extra cost of double handling, but the warehouse was intended primarily for goods not required for early despatch and thus valuable transit shed space would be kept clear for cargo from further ships.

We have seen that by 1919 the rates of pay for casual dockers had risen to about three times the 1914 rates and that because of loss of output, the true increase in labour cost was about four times more than before the war. Interest rates on capital borrowed for the Docks undertaking had risen from the 3 per cent per annum shortly before the war to 6 per cent after the war. On the last day of July 1914 Royal Assent had been given to the Bristol Corporation Act 1914 that authorised among much else the building of large cold stores connected with Shed O at the Royal Edward Dock and an extension that would double the size of the 10,000-ton Royal Edward Granary. The Act also gave power to purchase two floating pneumatic grain elevators. The outbreak of the war four days later debarred the Docks Committee from providing these facilities during the war when they would have been of the greatest service to the nation and to the Port. Although the cost of buildings and equipment would by 1919 be so greatly increased the Committee set about providing themselves with these assets.

The new floating elevators would rapidly suck bulk grain from ship's hold and could either fill barges and coastwise craft or put grain from hold ashore to be carried by conveying bands to granary or grain warehouses. The use of labour in ship's hold and ashore would be minimised by these easy operations. With C. J. King's two bucket elevators of 1910 there would be four floating grain elevators at the Avonmouth Docks. The Docks Committee increased their number of grain barges and these like those belonging to barge owners either could go to the City Docks or could move to new elevators erected ashore at berths in the Avonmouth Docks where barges would not interfere with shipping and where the grain could be pumped ashore for storage. Less costly and less spectacular labour-saving devices that seem quite elementary to us now were also purchased. Photographs show an early type of electric truck to avoid hand trucking from quay into shed and a sack piler to avoid the heavy manual labour of building up a stack of well-filled sacks. The trade of the Port would have to be rapidly recovered and increased to provide any sort of reasonable livelihood for the four thousand four hundred registered dockers at the Port.

Even as men began to come back from the war to the Port during the months of 1919, so but more gradually did some of the ships that had traded to and from the Port before August 1914 begin to return to accustomed berths. At the City Docks, the Bristol City Line's *New York City*, under Captain J. J. Carey, arrived from New York on the 30th December 1918 after an absence since the previous May and the steamer then made six more routine voyages to New York in 1919. The *Wells City* after a spell of Mediterranean voyages came in from Newport on the 4th December 1918 to load for New York and in 1919 made six such voyages from the City Docks. The *Exeter City* came in from Malaga and Burriana in January and March 1919 and after a year's absence from the Bristol–New York route, made four Atlantic voyages from the City Docks during the remaining months of 1919. On the 2nd February the *Chicago City* came in from Alexandria and picked up the threads of her trade in five 1919 voyages to and from New York.

Few ships at the Port were so fortunate in so prompt a resumption of peacetime habits. The Bristol Steam Navigation with a fleet of eleven steamers in 1914 were now reduced to four of their pre-war steamers. The 1891 *Echo* was back on the route between the City Docks and Amsterdam, Rotterdam or Antwerp with an arrival on the 7th April 1919, followed by the 1899 *Ino* on the 3rd May. The 1900 *Sappho* and Captain Jenkins had, as we have read, fallen into the hands of the Germans at the outbreak of war. It was not until the autumn of 1919 after much repair that the *Sappho* under the command of Captain Jenkins again began voyages to Holland and Belgium. Hollandsche Stoomboot of Amsterdam had also regularly traded between that Port and the City Docks before the war when they had a fleet of eight steamers. In 1919 their fleet mustered fifteen steamers, five of which they had owned in 1914. Nine had since been built and one was a pre-war steamer since purchased. Their 1917 *Texelstroom* arrived at the Port from Amsterdam on the 2nd February 1919. The 1917



Electric Trucks

A photograph in Chapter Six showed a skip of cargo being hoisted by crane from ship's hold. Up to 1919 goods for storage in the ground floor of a transit shed would have been landed on the quay and taken on hand trucks by dockers into the shed to where those goods were being stacked. A stream of dock labour was thus employed.

On the 13th August 1919 British Electrical Vehicles Ltd. lent one of their 1-ton electric trucks to the Port Authority for trial. The experiment was successful. The truck manned by one man could be driven direct to the stack of goods and the saving of labour was appreciable. More and larger electric trucks were gradually purchased and quicker clearance of ship's hold resulted. The price of that first electric truck was £375.

Berkelstroom on the 6th April, the 1917 *Drechstroom* on the 23rd September and the 1919 *Amstelstroom* on the 1st December 1919. The Glasgow shipowners, J. and P. Hutchison, had their 1914 fleet reduced by about half by 1919, but at least they had had the 1917 *Smerdis* of 1,032 tons gross and the 1918 *Philotis* of 1,037 tons gross built at Ardgarroch and with these two steamers, together with the 1,899 *Paris* of 559 tons gross and the 1891 *Thetis* of 649 tons gross, Hutchison's began in 1919 to build up their pre-war trade between the City Docks and Bordeaux. The Cardiff firm of O. and W. Williams with the 1902 steamers *Menapian* of 2,947 tons gross and *Menevian*, 2,929 tons gross began to resume their pre-war trade with European ports of the Western Mediterranean such as Malaga, Marseilles and Genoa. The decline in the number of ships trading between Bristol and European ports was matched by the decline in cargo. It was the 16th December 1919 before the one ship to arrive from Germany that year came into the Port when Palgrave Murphy's *City of Frankfort* from Hamburg berthed in the City Docks.

Mine-sweeping may seem to have been a far less hazardous undertaking during the war than cargo-carrying if the numerical experience of Campbell's thirteen pleasure steamers of shallow draught is considered a reliable guide. Only two of those paddle steamers were lost and even so their crews were saved. The *Albion* was the first to come home and entered the City Docks on the 15th February 1919. Eleventh and last came the *Barry* on the 27th September after war service at the Dardanelles and in the Mediterranean. Their voyages were in fact full of hazard and took these fast paddle steamers into all the seas around Britain. Their service included mine-sweeping for the Grand Fleet and also in the dangerous waters between Dover and Calais.

On a mid-morning in July 1919 a happy band of young men and maidens on holiday were feasting themselves on Devonshire cream pastries in the high bay window of Southcombe's at Ilfracombe. For them the frivolities of the 1920's had already begun. As they gazed seaward from time to time a Londoner espied a strange craft up Channel on the eastern horizon. A glance from the writer showed it to be one of Campbell's White Funnel fleet. Like Drake we had time amply to finish the task in hand and then go steeply downhill towards the ancient harbour to see the first post-war arrival from Bristol of one of the Swans of Avon. We all went aboard. The paddle steamer, name forgotten, was to cruise on to Clovelly, the precipitous Devon village where landings were made from small boats rowed out from the tiny harbour six miles east of Hartland Point. Cream pastries are not the best ballast for the seas off North Devon when the Atlantic is flexing its muscles. On our return journey a great spread of canvas far away to north was stained with the rosy light of evening as an ocean-going sailing ship drove westward down Channel. That evening upon the sea it seemed the happy ways of the world we had once known were not after all to be lost.

In the spring and summer of 1919 there were irksome delays for P. and A. Campbell while their steamers that had returned from war, painted in drab grey and stripped of their amenities, were restored to former elegance. It was however upon liners converted to troop carriers and upon large or specialised cargo ships requisitioned for war purposes that the burden of delay in refitting and repairing for peacetime purposes fell the heaviest. Moreover, most cargo steamers that continued as such to meet the nation's urgent needs had been pressed into service far beyond the time when necessary repair and maintenance had become due. All these now made heavy demands upon the shipyards, repair yards, dry docks and dock berths of the country for space and labour for repairs. As if the dearth of shipping through war losses and the delays through the need for essential refitting and repair of so many ships were not enough, it was, as the Shipping Controller reported, "more than unfortunate that at such a time the men in many of the most important repairing yards should have decided to go out on strike. Those strikes lasted . . . some of them for two months and some for much longer." At one time over six hundred ships were being held up by the strikes.

The Port does not appear to have been unduly troubled by unrest among the ship-repairers. The repairing yards at the City Docks would in normal times hardly have been regarded as among the most important repairing yards of the kingdom. Their contribution during the war in new building and repairs was however of great value and the dry docks and yards of the Port gave employment to thousands of men, many of whom had no previous experience in that industry and could hardly look forward to such employment if the shipyards of the Port returned to pre-war levels of work. For the present, shipyard work at the Port was visible for many months ahead while much of industry in general had the problem of trying to find places for men returning from the war and wartime industries were disgorging men for whom there was now no further need.

During 1919 finding berths for the number of large steamers awaiting or undergoing refitting or repair in the Royal Edward Dock was a constant problem to the Port Authority. Refitting often took an undue length of time particularly for specialised steamers such as those of Elders and Fyffes where insulated fruit compartments and passenger cabins had been torn out in the haste to get several of their fleet to sea as armed merchant cruisers. The company's 1913 *Patuca*, 6,103 tons gross and 417 feet in length, came in on the 4th November 1918 and did not depart until the following July. Their 1915 *Coronado*, 6,539 tons gross and 425 feet in length, stayed in dock from the 23rd November 1918 until mid-March 1919, but made amends by returning in April with 91,000 stems of bananas the largest such cargo up to that date. The Company's *Changuinola* and their *Barranca* also had spells of two months and three months in the Royal Edward Dock. Because of the Company's heavy loss of ships and the need to refit and repair most of their remaining steamers only three cargoes of bananas had arrived at the Port by September 1919. The long stay of the *Parisian* through the summer of 1919 has been mentioned in the caption to a photograph of the Royal Edward Graving Dock. The British Petroleum's 1917 tanker *British Admiral*, 6,842 tons gross and 430 feet in length, arrived on the 6th December 1918 and remained for nearly nine months and that Company's 1901 tanker *British Earl* of similar size came ten days later and remained for five months. Whilst these visitors with many others of shorter duration were welcome in so far as they gave employment, their presence raised berthing problems in the Avonmouth Docks where, as we shall briefly see, trade was showing a very necessary increase over the disastrous summer months of 1918.

In the months from May to September 1919 twice as many ships came into the Port from overseas as in the corresponding months of 1918. Their cargoes also increased by more than half, but the 220 ships that brought 642,000 tons of cargo in those five months of 1919 still fell far short of the 452 ships that brought in 848,000 tons from overseas during the months of May to September 1913. The foreign exports of those months in 1919 were no more than 57,000 tons against the 137,000 tons of 1913. But already in 1919, although so many familiar ships would arrive no more, familiar ships of the pre-war years were coming back to Port berths together with new ships often bearing familiar names in memory as it were of ships that had been lost.

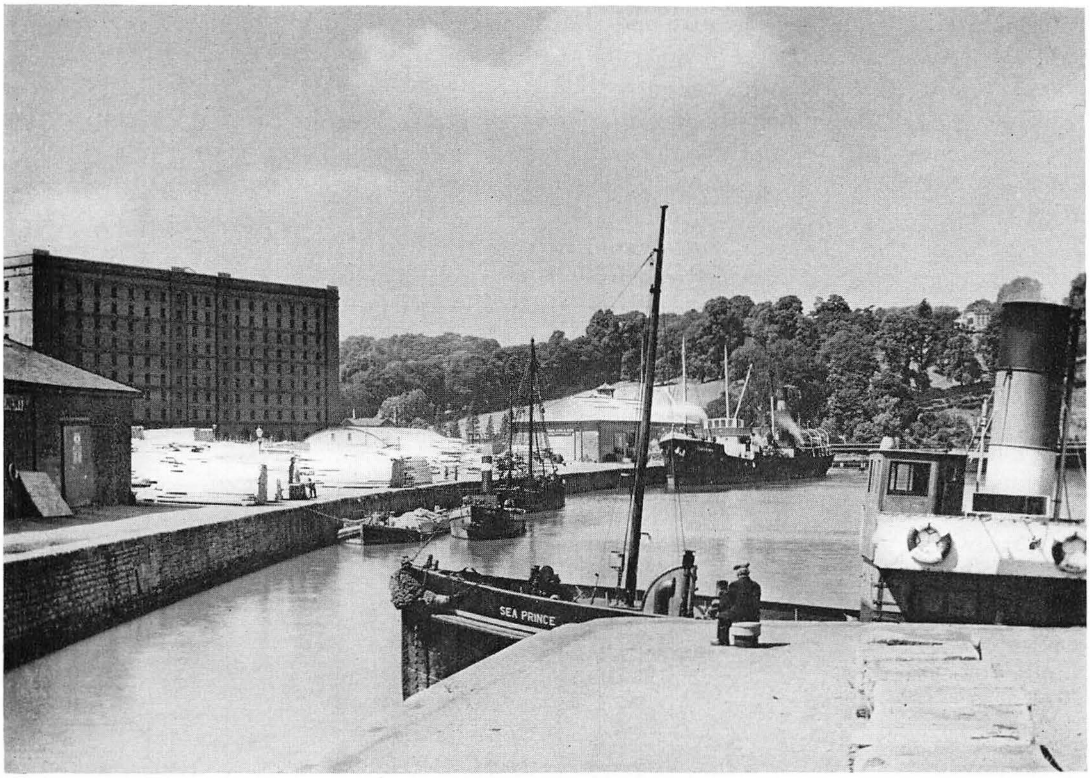
The railway companies from whom so much rolling stock had been taken during the war were still unable in mid-1919 to clear waiting traffic from the Avonmouth Docks. Criticism of the companies has to be tempered by remembering that whilst they took about three-quarters of a million tons of traffic from the Avonmouth Docks before the war they managed amid all their difficulties to take rather more than a million tons away in the year to the 30th April 1916 and somewhat less than a million tons during the next twelve months. That said, it is discouraging to find that at one time in the summer of 1919 unexecuted orders for want of railway trucks had piled up at the Avonmouth Docks to the extent of 19,000 tons of grain and 13,000 tons of general goods. Furthermore, there were 2,840 trucks loaded with goods by the Docks Committee, plus an unknown number loaded by dock tenants, still waiting to be hauled away by the railway companies. One thing leads to another. In the week that ended on Saturday, the 2nd August ninety lorries took away 397 tons of goods from the Avonmouth Docks. On the previous Monday, a report to the Docks Committee read as follows,

> ". . . the system of transport of goods by Motor Lorry between Avonmouth and Bristol is slowly but steadily increasing and the encouragement of this method of transport is very desirable in view of the great shortage of railway trucks. To make lorry transport feasible it is essential to improve our means

of delivery to road vehicles. The Committee will remember that practically all our arrangements are made for delivery to railway vehicles."

In fact the normal railway lines, a few inches in height, almost beleaguered Dock sheds and warehouses so far as lorries were concerned. The General Manager therefore recommended and the Docks Committee agreed to the spending at once of £500 upon small loading platforms for lorries clear of the railway lines and upon road approaches to the platforms. "While asking for no more than is essential for present needs", the report went on, "it is certain that much larger provision will have to be made in the future. . . . This is part of a more comprehensive scheme which has been carefully considered by the officers." Small lorry platforms were sited at the most modern and important sheds in the Port, Sheds O and P at the Royal Edward Dock. Meanwhile the oil companies were taking more land for their storage tanks upon the other side of the Dock, where recently at the Tractor Depot the Army had assembled their types of tanks. These installations would be alongside that 1913 Timber Channel that had grown into the Oil Basin which the Docks Committee were now again extending.

Our account of the service the Port of Bristol rendered to the national cause during the perilous times from August 1914 to November 1918 now comes to an end. The margin between safety and defeat in the Western Approaches from the Atlantic became so narrow that the western ports of Liverpool and Bristol, each in proportion to their capacities, made an essential contribution in staving off disaster. Each met with common frustrations that lay not within their power to remedy. For ports, as for the nation, the long problems of peace now lay ahead. The trends of trade that were hoped for at the Port of Bristol may be judged by those projects upon which much money was about to be spent. The Royal Edward Granary space was to be doubled and new floating elevators provided to empty the grain ships speedily. The Oil Basin was to be lengthened and the Royal Edward Cold Store was at last being built for produce from New Zealand, Australia and the Argentine. The Docks Committee of 1919 had a sound majority of men of foresight and courage. Some of them had fought twenty years before for the construction of the Royal Edward Dock. They had been proved to be more than justified, first by nearly six years of increasing trade up to 1914 and then by being ready and able to serve the purposes of four years of war. It remained, however, to be seen whether or not the renewed enterprise of the Docks Committee in the lean times of 1919 would be rewarded in the years to come.



Cumberland Basin, City Docks

It does not appear to be a busy morning on the south side of the Basin, but outward shipping awaiting tide usually moored on the north wall unseen in this picture. A coaster unloads a cargo of cement at the Waterford Shed. Astern of the coaster is Brunel's lock finished in 1850, but begun by the Bristol Dock Company before being taken over by Bristol Corporation in 1848. The waters of the old entrance lock are still crossed by Brunel's iron bridge of tubular construction.

Where a ship recently berthed and put ashore a timber cargo, there are now moored a sailing coaster, a small tug and a barge deeply laden enough to cause one to ruminate upon the Port Authority's wreck-raising powers. It is less gloomy upon this summer morning to regard one of the Port's Tobacco Warehouses and the rolling woodlands of Ashton Court. Moored in front of us is the tug *Sea Prince* owned by C. J. King & Sons, tug owners as well as stevedores.

APPENDIX

Table 1	Port Trade: 1914 to 1919 and also 1900.
Table 2	Avonmouth Docks: Steamers of 500 feet and over in length entering from August 1914 to April 1919.
Table 3	Docks Committee's Staff who joined the Army, Navy or Air Services during the 1914–1918 War. (The names of those who gave their lives are shown in bold type.)
Table 4	Members of the Employers' Labour Association of the Port of Bristol, 1916.

TABLE 1. Port Trade: 1914 to 1919 and also 1900
(For years ended 30th April)

	1914	1915	1916	1917	1918	1919	1900
	000 tons net	000 tons net	000 tons net	000 tons net	000 tons net	000 tons net	000 tons net
Shipping tonnages:							
Commercial:							
From overseas (a)	1,568	1,425	1,262	1,120	814	771	848
Coastwise (a)	1,055	970	758	646	493	502	764
War traffic (b) (c)	—	1,477	1,788	1,065	455	252	—
Totals (b)	2,623	3,872	3,808	2,831	1,762	1,525	1,612
Number of ships:							
Commercial:							
From overseas (a)	978	759	691	585	315	311	826
Coastwise (a)	8,292	7,377	6,032	5,229	4,676	4,566	unknown
War traffic (b) (c)	—	459	669	561	257	158	—
Totals (b)	9,270	8,595	7,392	6,375	5,248	5,035	—
Goods:	000 tons	000 tons	000 tons	000 tons	000 tons	000 tons	000 tons
Commercial:							
From overseas							
Imports (a)	1,839	1,763	1,752	1,485	1,168	1,092	1,395
Exports (a)	316	181	121	152	97	82	112
Commercial:							
Coastwise							
Imports (a)	1,131	963	843	712	637	588	758
Exports (a)	472	440	397	314	301	340	375 (est.)
War traffic							
In (c)	—	85	147	91	150	87	—
Out (c)	—	82	314	398	227	60	—
Totals	3,758	3,514	3,574	3,152	2,580	2,249	2,640

NOTE:

By the 31st January 1920 when war traffic at the Port ceased a further 18 ships of 29,821 tons net had brought in 20,968 tons of goods and taken out 1,028 tons.

Sources (a) Annual Report, 1920.
(b) Annual Report, 1919.
(c) Annual Returns in Docks Minutes, 1914–1919.
No division between overseas and coastwise.

TABLE 2. Avonmouth Docks: Steamers of 500 feet and over in length entering from August 1914 to April 1919

Steamer	Owner	Gross tonnage	Length
Rotterdam	Holland Amerika Line	24,149	650·5
Ceramic	White Star Line..	18,481	655·1
Megantic	White Star Line..	14,878	550·4
Suevic	White Star Line..	12,531	550·2
Georgic	White Star Line..	10,077	558·7
Franconia	Cunard Line	18,150	600·3
Ivernia	Cunard Line	14,278	528·0
Alaunia	Cunard Line	13,405	520·3
Andania	Cunard Line	13,405	520·3
Ultonia	Cunard Line	10,402	500·0
Almanzora	Royal Mail Steam Packet Co.	16,034	570·0
Andes	Royal Mail Steam Packet Co.	15,620	570·3
Araguaya	Royal Mail Steam Packet Co.	10,537	515·2
Aragon	Royal Mail Steam Packet Co.	9,588	513·2
Cardiganshire	Royal Mail Steam Packet Co.	9,426	500·3
Ulysses	China Mutual Steam Navigation Co. ..	14,499	563·2
Minnewaska	Atlantic Transport Co.	14,317	600·3
Minneapolis	Atlantic Transport Co.	13,543	600·7
Minnetonka	Atlantic Transport Co.	13,528	600·7
Edinburgh Castle.. ..	Union Castle Mail S.S. Co.	13,326	570·2
Llandovery Castle ..	Union Castle Mail S.S. Co.	11,423	500·1
Llanstephan Castle ..	Union Castle Mail S.S. Co.	11,293	500·5
Kildonan Castle	Union Castle Mail S.S. Co.	9,692	515·3
Missanabie	Canadian Pacific Ocean Services Ltd. ..	12,469	500·6
Shropshire	Federal Steam Navigation	12,184	526·4
Northumberland	Federal Steam Navigation	12,160	530·5
Wiltshire	Federal Steam Navigation	10,390	526·5
Orvieto	Orient Steam Navigation	12,130	535·3
Argyllshire	Scottish Shire Line	12,097	526·2
Haverford	International Navigation Co.	11,635	531·0
Corsican	Allan Line	11,419	500·3
Virginian	Allan Line	10,757	520·4
Victorian	Allan Line	10,635	520·0
Tunisian	Allan Line	10,576	500·3
Hororata	New Zealand Shipping Co. Ltd.	11,243	511·1
Royal George	Canadian Northern S.S. Co.	11,146	525·8
Royal Edward	Canadian Northern S.S. Co.	11,117	526·1
Berrima	Peninsular & Oriental S.N. Co.	11,137	500·1
Moldavia	Peninsular & Oriental S.N. Co.	9,500	520·6
Winifredian	Leyland Line	10,422	552·5
Cestrian	Leyland Line	8,912	512·5

TABLE 2. (continued)

Steamer	Owner	Gross tonnage	Length
Armenian	Leyland Line	8,825	512·5
Victorian	Leyland Line	8,825	512·5
San Melito	Eagle Oil Transport Co.	10,160	530·0
San Nazario	Eagle Oil Transport Co.	10,064	525·5
San Patricio	Eagle Oil Transport Co.	9,712	530·0
Silver Lip	Anglo-Saxon Petroleum Co.	9,718	530·2
Wayfarer	Charente Steamship Co.	9,599	505·0
Irishman	British & North Atlantic S.S. Co.	9,530	500·7
Canada	British & North Atlantic S.S. Co.	9,415	500·4
Narragansett	Anglo-American Oil Co.	9,196	512·0
Star of Victoria	Commonwealth & Dominion Line	9,152	501·3
Maidan	T. & J. Brocklebank Ltd.	8,205	500·0
Caledonia	Henderson Bros.	9,225	500·0

TABLE 3. Docks Committee's Staff who joined the Army, Navy or Air Services during the 1914–1918 War
(The names of those who gave their lives are shown in bold type)

Allen, S. M.	**Fitter's Apprentice**	**Seaman**	**R.N.V.R.**
Ann, C. G.	Clerk, Secretary's Dept.	Lance-Corpl.	3rd Gloucesters
Arney, F. D.	Clerk, Dues Dept.	Signaller	2nd Wiltshire Regt.
Ashman, E.	Pointsman	Private	3rd Gloucesters
Atherton, A.	Smith's Striker	Private	2/7th Royal Warwicks
Atwell, L.	**Lockgateman**	**Able Seaman**	**Royal Fleet Reserve**
Bailey, C. F.	Clerk, Dues Dept.	C.S.-M.	6th Gloucesters
Bailey, P. G.	Clerk, Traffic Dept.	Private	1/4th Gloucesters
Baker, A. E.	**Sack Attendant**	**Private**	**11th Gloucesters**
Barnes, F. W.	Capstan Hand	Sapper	R.E.
Baugh, H. E.	Clerk, Traffic Dept.	Corporal	R.E.
Baugh, H. T.	Clerk, Traffic Dept.	Private	R.A.M.C.
Baxter, E. A.	Clerk, Engineer's Dept.	Private	1/6th Gloucesters
Beavis, G. R.	Clerk, Traffic Dept.	Lance-Corpl.	4th Gloucesters
Bebb, E. D.	Clerk, Traffic Dept.	Lieut.	18th Batt. King's Liverpool
Beedle, H. W.	Clerk, Traffic Dept.	Lance-Corpl.	R.I.F.
Biddle, M.	Shunter	Private	Machine Gun Corps
Bishop, J. S.	Labourer	Sergeant	S.M.R.E.
Biss, G.	Clerk, Traffic Dept.	2nd-Lieut.	10th Batt. Tank Corps
Blake, A. G.	Clerk, Traffic Dept.	Private	7th Gloucesters
Bleaken, G.	Pointsman	Private	51st Devons
Board, C. A.	Clerk, Traffic Dept.	Private	S.L.I.
Boulton, A. W.	Cold Stores Attendant	Bandsman	4th Gloucesters
Brewer, H. G.	Clerk, Traffic Dept.	2nd-Lieut.	Tank Corps
Brooks, W. J.	Capstan Hand	Drummer	1st Gloucesters
Bryant, C. H.	Deck Hand, Dredger *B.D. 1*	Able Seaman	Royal Fleet Reserve
Buck, R.	General Labourer	Private	7th Royal Irish

Table 3. (continued)

Budd, E.	Labourer	Private	R.A.M.C.
Bugler, S.	Carpenter	Lance-Corpl.	S.M.R.E.
Bullock, H. J.	Clerk, Traffic Dept.	Private	1/7th Royal Warwicks
Calvey, H. J.	Clerk, Traffic Dept.	Trooper	West Somerset Yeomanry
Chapman, F. J.	Clerk, Traffic Dept.	Corporal	R.A.F.
Chapman, P. S.	Clerk, Traffic Dept.	Private	Machine Gun Corps
Chard, C. E.	Pointsman	Private	1st Wiltshires
Chidgey, F.	Pointsman	Corporal	53rd Warwicks
Chilcott, G.	Platelayer	Sergeant	Somerset R.H.A.
Clark, A. J.	Tobacco Loader	Private	4th Gloucesters
Clark, E.	Tobacco Loader	Private	15th Worcester
Clarke, P. J.	**Clerk, Traffic Department**	**A.B.**	**R.N.D.**
Clutterbuck, G.	Labourer	Private	Labour Battalion
Codrington, L. H.	Clerk, Traffic Dept.	Signaller	R.G.A.
Cole, M.	Clerk, Traffic Dept.	Lieut.	R.A.F.
Coles, E.	Clerk, Secretary's Dept.	Private	Gloucesters, 2nd Army Corps H.Q.
Collier, W. H.	Clerk, Traffic Dept.	Sergeant	Gloucestershire R.F.A.
Collins, J. A.	Plumber	Sapper	S.M.R.E.
Collins, S. F.	General Labourer	Private	R.M.E.
Cook, F. C.	Pointsman	Sapper	R.E.
Copsey, C.	Lockgateman	Petty Officer	R.N.R.
Crocker, W. S.	Drawing Office Assistant	Private	53rd Y.S. Batt. Warwicks
Cross, H. S.	Lockgateman	Signalman	R.N.V.R.
Cross, R.	Clerk	Lance-Corpl.	R.A.M.C.
Cullimore, C. H.	**Clerk, Traffic Department**	**Corporal**	**R.A.F.**
Dando, W. S.	Clerk, Traffic Dept.	Sergeant	6th Gloucesters
Davis, F. V.	Clerk, Traffic Dept.	Signaller	5th Royal Warwicks
Davis, G. W.	**Labourer**	**Private**	**3rd Worcesters**
Davis, M. J.	General Labourer	Private	127th Labour Company
Day, F. G.	Labourer	Sapper	S.M.R.E.
Delaney, W. G.	Crane Driver	Leading Stoker	R.N.R.
Derrick, R. W.	Stores Assistant	Private	7th Gloucesters
Derrick, W. J.	Crane Driver	Gunner	R.F.A.
Derrick, W. T.	Wagon Fettler	Gunner	R.H.A.
Derrick, W. H.	Boy in Wagon Shop	Private	2nd Southern T.M.B.
Dickens, T. G. (D.C.M.)	**Granary Attendant**	**Corporal**	**Grenadier Guards**
Dubber, A.	Pointsman	Private	Machine Gun Corps
Duggan, T.	Clerk, Traffic Dept.	Signaller	East Riding Yeomanry
Dungey, H.	**Clerk, Traffic Department**	**Private**	**ShropshireLight Infantry**
Dyer, C.	Labourer	Lance-Corpl.	Royal Defence Corps
Elliott, H.	**Labourer**	**Private**	**Royal Defence Corps**
Evans, S. G.	Outside Clerk, Traffic Dept.	Private	Duke of Cornwall's Light Infantry
Evans, T. W.	Clerk, Engineer's Dept.	Private	8th Worcesters
Eyres, C. J.	Sack Attendant	Corporal	15th Worcesters
Fenton, C. D.	Engineer's Apprentice	Staff-Sergeant	Army Ordnance Corps
Fenton, R. L.	Engineer's Apprentice	Gunner	6th Tank Corps
Flay, W.	Clerk, Traffic Dept.	Private	1/4th Gloucesters

Table 3. (continued)

Flowers, E.	Labourer	Sergeant	4th Gloucesters
Foley, G.	Deck Hand, S.D. *Thames*	Ldg. Seaman	R.N.R.
Fox, C.	**Tobacco Sampler**	**Corporal**	**1st Royal Scots**
Francomb, F. J.	Grain Bandsman	Lance-Corpl.	8th Somerset L.I.
Fulker, W. C.	Signalman	Yeoman of Signals	R.N.R.
Gale, B. J.	Pointsman	Lance-Corpl.	1st Dorset
Gale, F.	Clerk, Traffic Dept.	Corporal	R.E.
Gale, W.	Stores Assistant	Aircraftman	R.A.F.
Gale, D. R.		Lance-Corpl.	Gloucesters
Geater, H. J.	Painter	Private	4th Gloucesters
Gerrish, W. J.	Lockgateman	Lance-Corpl.	Army Ord. Corps
Godwin, E. R.	Clerk	Private	Royal Marines
Gover, E.	Clerk, Dues Dept.	Sergeant	R.A.S.C.
Graham, G.	Sack Porter	Private	12th Gloucesters
Grant, H. S.	Clerk, Dues Dept.	A/Captain	West Yorkshire
Gray, F. J.	Labourer	Corpl.	4th Gloucesters
Griffin, H. B.	**Clerk, Traffic Department**	**Private**	**9th Devons**
Grimshaw, W.	Assistant Grain Bandsman	Private	Oxford & Bucks L.I.
Gummer, W.	Bridge Master	Corpl.	R.A.M.C.
Guy, J.	Assistant Lock-keeper	Leading Gunner	R.N.R.
Hack, A.	Clerk, Traffic Dept.	Lance-Corpl.	4th Gloucesters
Hack, R.	Clerk, Traffic Dept.	Private	Trench Mortar School
Hancock, C.	Carpenter	Corporal	R.E.
Harding, W. J.	**Clerk, Dues Department**	**Private**	**12th Gloucesters**
Harvey, A.	Clerk, Traffic Dept.	Private	4th Gloucesters
Harvey, F. G.	Clerk, Traffic Dept.	Lance-Corpl.	6th Inniskilling Dragoons
Heaven, R. A. S.	Clerk, Traffic Dept.	Midshipman	Royal Navy
Hewlett, G.	Sack Attendant	Sapper	R.E.
Hill, C.	Dock Watchman	Sergt.-Major	Somerset R.H.A.
Hill, E. G.	Clerk, Dues Dept.	Lieut.	4th Gloucesters
Hill, F. G.	Clerk, Engineer's Dept.	Gunner	R.M.A.
Hill, J. A.	Clerk, Traffic Dept.	Captain	3rd Gloucesters
Hill, W. E.	Clerk, Traffic Dept.	A.B.	R.N.D.
Hitchen, A. E.	Clerk, Traffic Dept.	2nd-Lieut.	6th Staffs
Hodges, B. C.	Clerk, Traffic Dept.	Signaller	52nd Hampshire
Hole, W. H. L.	Clerk, Traffic Dept.	Private	1st Devons
Honey, S.	Relief Foreman	Lance-Corpl.	6th Gloucesters
Hood, F.	**Labourer**	**Private**	**2nd North. Fusiliers**
Hort, J. C.	Clerk, Dues Dept.	Corporal	Somerset L.I.
Horton, F.	Fireman, S.H. *Avon*	Sapper	S.M.R.E.
Hucker, G.	Electrician's Apprentice	Sapper	S.M.R.E.
Hunt, J. T.	Mason	Sapper	S.M.R.E.
Hurd, A.	Labourer	Private	R.A.M.C.
Hurley, J.	Crane Driver	Corporal	S.M.R.E.
Hurst, H.	Hulk Attendant	Acting Leading Seaman	R.N.R.
Hussey-Yeo, W. J.	Lockgateman	Able Seaman	R.N.R.
Inglis, P.	Timekeeper	Corpl.	S.M.R.E.
Jackson, C. B.	**Clerk**	**Lance-Corporal**	**4th Gloucesters**
Jefferies, G.	**General Labourer**	**Sergeant**	**1st Gloucesters**

Table 3. (continued)

Jefferies, W.	Lockgateman	Private	St. John Ambulance HQ.
Jenkins, A. G.	Timekeeper	Bombardier	Somerset R.H.A.
Jenkins, E. W.	Steward, Dredger *B.D. 1*	Private	2nd Middlesex
Joiner, H. T.	Labourer	Lance-Corpl.	10th Gloucesters
Jones, A. E.	General Labourer	Air Mechanic	R.A.F.
Jones, E. W.	Stores Assistant	Private	Machine Gun Corps
Jones, M. E.	Clerk, Traffic Dept.	Private	259 Area Employment HQ.
Jones, W. E.	Fireman, S.D. *Thames*	Stoker	R.N.R.
Keevil, J. B.	Clerk, Traffic Dept.	Sergeant	R.A.M.C.
Kerr, R. F.	**Clerk, Traffic Department**	**Gunner**	**R.F.A.**
Kirley, G. A.	Carpenter's Apprentice	Lance-Corpl.	4th Gloucesters
Lang, S.	**Lockgateman**	**2nd Class P.O.**	**Royal Fleet Reserve**
Langley, E. G.	Crane Driver	Lieut.	Labour Corps
Lear, G.	General Labourer	Pioneer	Labour Battalion
Leslie, W.	Watchman, S.H. *Avon*	Sergeant	1st Gloucesters
Lewis, O.	Clerk, Traffic Dept.	Lance-Corporal	R.E.
Lewis, W. H.	Timekeeper	Private	17th Gloucesters
Littlewood, F. G.	Clerk, Dues Dept.	Sergeant	6th Gloucesters
Lloyd, G.	Boilermaker	Sapper	S.M.R.E.
Lloyd, T.	Labourer	1st Class Stoker	R.F.R.
Lockyer, J. B.	Clerk, Traffic Dept.	Private	R.A.M.C.
Lovell, H. W.	Draughtsman	Private	4th Gloucesters
Lovell, L. E.	Clerk, Traffic Dept.	Signaller	R.G.A.
Lumbard, H. J.	**Timekeeper**	**Sergeant**	**12th Gloucesters**
Maby, R. L.	Clerk, Traffic Dept.	Signaller	R.G.A.
Mahoney, H. J.	Tobacco Sampler	Private	Somerset L.I.
Marshall, H.	Cold Stores Attendant	Bandsman	4th Gloucesters
Martin, J. T.	Painter's Apprentice	Private	K.R.R.
Maslen, G.	Clerk, Traffic Dept.	2nd-Lieut.	31st Machine Gun Corps
Matthews, A.	Pointsman	Guardsman	Grenadier Guards
McColl, F. W.	Clerk, Traffic Dept.	Sergeant	53rd Devon
McCullock, A.	Clerk, Traffic Dept.	Sapper	R.E.
McCullock, G.	Pointsman	Private	4th Gloucesters
McDonald, P. H.	Locomotive Fireman	Corporal	R.H.A.
McSweeney, E.	Clerk, Secretary's Dept.	Motor Cyclist	R.A.F.
Mears, L. H.	**Arc Lamp Trimmer**	**Sergeant**	**4th Gloucesters**
Miles, D. E.	Clerk, Engineer's Dept.	Bombardier	R.F.A.
Miller, L. S.	Signalman	Chief Yeoman of Signals	R.N.R.
Millar, A. H.	Grain Sampler	Private	6th Gloucesters
Milner, J.	Clerk, Traffic Dept.	C.S.-M.	Bichazeer Squadron, A Troop, I.C.C.
Mitchell, A.	Steward, Dredger *B.D. 1*	Private	14th Gloucesters
Mitchell, B. F.	Wagon Fettler	Gunner	R.G.A.
Moore, L. H.	Labourer	Private	3rd Royal Sussex
Morgan, H. O.	Clerk, Engineer's Dept.	Captain	1st South Staffs
Neale, W. H.	Crane Driver	Leading Stoker	R.N.R.
Noyes, A. J.	**Electrician's Apprentice**	**Private**	**4th Gloucesters**
Noyes, W. C.	Capstan Hand	Sergeant	4th Gloucesters

Owen, H. C.	Number Taker, Railway Dept.	Private	R.A.M.C.
Palmer, L. C.	**Clerk, Traffic Department**	**Private**	**12th Gloucesters**
Parkin, E. G.	Clerk, Traffic Dept.	Private	5th Worcesters
Parkin, S. C.	Clerk, Traffic Dept.	Corporal	1/4th Gloucesters
Parkinson, L. G. (M.C.)	**Draughtsman**	**Major**	**1/4th Gloucesters**
Parry, E. H.	Clerk, Traffic Dept.	Corporal	Somerset R.H.A.
Parsons, W. G.	Labourer	Private	Labour Battalion
Paske, B.	Locomotive Cleaner	1st Class Petty Officer	R.N.
Payne, F. N.	Signalman	Yeoman of Signals	R.N.R.
Pelling, S. C.	Clerk, Dues Dept.	Sapper	R.E.
Pepworth, F. G.	Labourer	Corporal	R.G.A.
Perkins, W.	Timekeeper	Sergeant	6th Gloucesters
Perry, C.	Deck Hand, Dredger *B.D. 2*	Stoker	Royal Fleet Reserve
Perry, E.	Dredging Assistant	Lance-Corpl.	4th Gloucesters
Perry, F. J.	Telephone Attendant	C.Q.M.S.	8th Gloucesters
Perry, L.	Warehouseman	Private	R.A.F.
Philips, S. J.	Pointsman	Private	4th Gloucesters
Phillips, B.	Lockgateman	C.Q.M.S.	S.M.R.E.
Philpott, G. E.	Clerk, Engineer's Dept.	Corporal	Worcester
Philpott, J. A.	Clerk, Dues Dept.	Private	Q.O.W.H.
Pike, F.	Lockgateman	Corporal	12th Gloucesters
Pilgrim, C. A.	Clerk, Traffic Dept.	Private	4th Royal Berkshires
Plumpton, J.	Mate, S.D. *Thames*	Corporal	R.F.A.
Pocock, L.	Fitter's Apprentice	Air Mechanic	R.A.F.
Poole, F.	Labourer	Private	R.D.C.
Poulson, H.	Dock Watchman	Private	R.M.L.I.
Powell, A. H.	Timekeeper	A/C.Q.M.S.	2nd Dorsets
Pritchard, F.	Labourer	Private	12th Gloucesters
Pugh, A.	**Boy Labourer**	**Trooper**	**10th Hussars**
Purnell, A. J.	Fitter's Labourer	1st Class P.O.	R.N.R.
Redmore, W.	Pointsman	Lance-Corpl.	1/6th Gloucesters
Reed, J. T.	Clerk, Secretary's Dept.	Private	Officers' Training Corps
Reed, W.	Cold Stores Attendant	Corporal	S.M.R.E.
Reed, W. J.	**Clerk, Dues Department**	**Gunner**	**R.F.A.**
Reeves, K. L.	Fitter's Apprentice	Cadet	R.A.F.
Rendle, G.	**Checker**	**Lieutenant**	**4th East Yorkshire**
Rex, G.	Capstan Hand	Private	5th Reserve R. Warwicks
Rich, A. R.	Timekeeper	Sergeant	1/4th Gloucesters
Richards, A. J.	Clerk, Dues Dept.	Private	4th Gloucesters
Richards, H. W.	Clerk, Traffic Dept.	Signaller	6th S.L.I.
Richens, G.	Lockgateman	Able Seaman	Royal Fleet Reserve
Riches, A. T.	Blacksmith	Corpl. Mechanic	R.A.F.
Room, F.	Grain Attendant	Private	Machine Gun Corps
Room, J. R.	Clerk, Traffic Dept.	Private	2/4th Norfolks
Rowlands, W. G.	Draughtsman	Sapper	R.E.
Rumble, A. L.	Fitter's Improver	Driver	Gloucestershire R.F.A.
Russell, F.	Labourer	Lance-Corpl.	8th Manchesters
Ryan, G. T.	Railway Y'd Superintendent	Captain	Embarkation Staff
Sanders, A.	Smith's Striker	Lance-Corpl.	S.M.R.E.
Sansum, C. M.	**Clerk, Traffic Department**	**Gunner**	**R.F.A.**

Table 3. (continued)

Savile, W. H. B.	**2nd Assistant Engineer**	**Captain**	**R.F.A.**
Sawtell, C.	Wireman's Labourer	Private	Coldstream Guards
Scott, A. H.	Shunter	Sergeant	4th Gloucesters
Sealley, H. W.	Clerk, Traffic Dept.	Capt. and Adjt.	4th Gloucesters
Shapcott, A. H.	Blacksmith	Corporal	S.M.R.E.
Sidney, G.	Fireman, S.H. *Avon*	Private	5th Gloucesters
Smith, J.	Watchman	Sergeant	R.G.A.
Smith, J. T.	Clerk, Dues Dept.	Lance-Corpl.	2nd Gloucesters
Smith, R. H.	Carpenter, S.H. *Avon*	Sergeant	S.M.R.E.
Smith, W. V.	**Clerk, Traffic Department**	**Lieutenant**	**8th Gloucesters**
Steadman, G.	Deckhand, Dredger *B.D. 1*	Private	8th Lancashire Fusiliers
Stephens, A.	Deck Hand, S.D. *Thames*	Chief Stoker	Royal Fleet Reserve
Stephens, H.	Fitter's Apprentice	Sapper	R.M.E.
Stephens, J. R. C.	Clerk, Traffic Dept.	2nd-Lieut.	R.G.A.
Stone, F.	Fitter	Second Air Mechanic	R.A.F.
Sullivan, F.	Labourer	Private	12th Gloucesters
Sutton, S. C.	Clerk, Traffic Dept.	Gunner	Gloucestershire R.F.A.
Tanner, V.	Clerk, Traffic Dept.	Lance-Corpl.	R.A. Cyclists' Corps
Taylor, H.	Locomotive Cleaner	Private	1st Royal Scots
Thomas, E. L.	Clerk, Traffic Dept.	Corporal	12th Gloucesters
Thomas, R.	Plumber's Apprentice	Driver	R.F.A.
Townley, G.	Capstan Hand	Private	Training Reserve Battalion
Treasure, S.	Painter's Labourer	L'ding Seaman	R.N.R.
Waite, A. K.	Clerk, Traffic Dept.	2nd A/Corpl.	R.A.F.
Wakefield, E.	Clerk, Secretary's Dept.	Private	6th Gloucesters
Watkins, G. J.	Patternmaker's Apprentice	Private	12th Gloucesters
Watts, W. H.	Draughtsman	Lieut.	7th Gloucesters
Weaver, H.	Clerk, Traffic Dept.	Private	R.A.S.C.
Webb, F.	Labourer	1st Class Stoker	R.N.
Webb, H.	**Pointsman**	**Private**	**4th Gloucesters**
Webb, M. E.	Clerk, Traffic Dept.	Sergeant	R.A.S.C.
Wells, H. E.	Labourer	Private	Army Ordnance Corps
White, R.	Labourer	Sapper	R.E.
Whitmarsh, C.	Diver	1st Class P.O.	R.N.R.
Whittock, A.	Carpenter's Apprentice	Gunner	R.F.A.
Whyatt, E. G.	Clerk, Traffic Dept.	Corporal	51st Hampshire
Wilding, J.	Pointsman	Gunner	R.G.A.
Wilmott, H. C.	Clerk, Traffic Dept.	Acting-Sergt.	Somerset R.H.A.
Winn, W.	Wireman's Labourer	Private	4th Gloucesters
Witchell, G. H.	Platelayer	Private	Cyclists' Battalion
Worgan, A. T.	Sack Porter	Driver	R.F.A.
Wright. T. W.	Capstan Hand	Private	7th Royal Warwicks
Yeates, S. W.	Carpenter	Gunner	R.F.A.
Young, E. K.	Clerk, Traffic Dept.	Corporal	Army Pay Corps

Table 4. Members of the Employers' Labour Association of the Port of Bristol, 1916

Founded in 1916 and consisting of two representatives of the Bristol Docks Committee (the Port of Bristol Authority) and of each of seven Employers' Associations and Committees in the Port of Bristol.

The following list of names of the members of the seven Employers' Association sets out the nucleus of employers at the Port in 1916.

Bristol Docks Committee

Bristol Steamship Owners' Association

Baker, B. A.
Bethell, Gwyn, & Co.
Bristol Steam Navigation Co. Ltd.
Burton & Sons Ltd., R.
Campbell Ltd., P. & A.
Canadian Pacific Railway Company
Canadian Northern Steamships Ltd.
Chessell & Co.
Dominion Line
Elders & Fyffes Ltd.
Hill & Sons, Charles
Hodder & Co., Hartley
Hosken, Trevithick, Polkinhorn & Co. Ltd.
Howe & Co., D. L.
James & Sons, Henry R.
King & Sons Ltd., C. J.
Little Western Steamship Co. Ltd.
Osborn & Wallis
Pockett's Bristol Channel Steam Packet Co. Ltd.
Powell, Bacon & Hough Lines Ltd.
Rea, R. & J. H.
Smith Ltd., Alfred J.
Stock & Sons, Edward
Turner, Edwards & Co.
Whitwill & Son, Mark
Whitwill, Cole & Co. Ltd.

Bristol Grain Importers' Defence Association

Adams Ltd., Robert & Henry
Bodey, Jerrim & Denning Ltd.
Clements, Sons & Co.
Clements & Co., W. K.
Collins & Sons, J.
Fluck, Son & Newman
Ford & Co., C. E.
Grace Bros.
Healing & Sons, S.
Hickman & Sons
Hosegood & Son, Henry
Kimmins, Drew & Co. Ltd.
Priday, Metford & Co. Ltd.
Robinson & Co., T.
Smith & Cornock
Spillers & Bakers Ltd.
Stoate, Hosegood & Co.
Stoate & Sons Ltd.
Tombs, J. W.
Turner, Nott & Co. Ltd.
Wait & James
Weston & Co., John
Western Counties Agricultural Co-operative Association Ltd.
Williams & Co., Christopher

TABLE 4 (continued)

BRISTOL CARTOWNERS' AND WAREHOUSE-KEEPERS' ASSOCIATION

Ball, C.
Baster, D.
Beake, R.
Brown, C. M.
Burgess Ltd., William
Cabble, H. A.
Clark, Martin
Cox. H. J.
Dare & Co., J.
Driscoll, C.
Feltham, J.
Fish & Sons Ltd., J.
Fivash, Charles
Ford & Canning
Franklin, G.
Glasson & Co.
Globe Express Ltd.
Great Western Granary Co.
Griffin, W. C.
Hayes & Sons, C. A.
Hedges, George, junr.
Hemmings, George
Hemmings, Robert
Hooper, H.
Nicholls, A.
Organ, O. J.
Perry & Sons Ltd., Benjamin
Pickfords Ltd.
Rudd, William
Russett, Charles
Russett, Henry
Russett, William
Shepstone, A. & J.
Stenner, E.
Stone & Co.
Stone, W.
Thomas, J.
Verity, E.
Wall & Co. Ltd., J. C.
Warriner, James
Weaver, V.
Webber, Joseph
Williams & Carter
Wintle, C.
Woodbridge, W.

BRISTOL TIMBER IMPORTERS' ASSOCIATION

Denty Ltd., Heber
May & Hassell Ltd.
Taylor & Low Bros.

BRISTOL MASTER STEVEDORES' ASSOCIATION

Joseph & Co., R.
King & Sons Ltd., C. J.
Perry & Sons Ltd., Benjamin
Pruett, Thomas
Reed & Co., F.
Tanner, Rees
Tucker, J.
Tutton & Sons, S.

BRISTOL TUGOWNERS' COMMITTEE

King & Sons Ltd., C. J.
Payne & Co., John
Rea Transport Co. Ltd.
Roberts & Sons, Charles

BRISTOL BARGEOWNERS' COMMITTEE

Ashmead, F. A.
Brown & Sons, T. R.
Forward Lighterage Co. Ltd.
Head, George
Perry & Sons Ltd., Benjamin
Spillers & Bakers Ltd.

SOURCES

Archives of the Bristol Docks Committee, including

Minute Books.

Annual Accounts and Reports.

Reports of Officers to Committee.

Sundry books and documents.

Minute Books of the Bristol City Council.

Bristol newspapers at the Bristol Central Library:
principally the *Western Daily Press* and *Bristol Times and Mirror*,
also magazines *Bristol and the War.*

Bristol and the Great War, 1914-1919—George F. Stone and Charles Wells (1920)—published by J. W. Arrowsmith Ltd.

History of the Great War based on official documents by direction of the Historical Section of the Committee of Imperial Defence.

(a) *Seaborne Trade*—C. Ernest Fayle (1920–1924), published by John Murray Ltd.

(b) *Naval Operations*—Sir Julian S. Corbett and Sir Henry Newbolt (1920–1931), published by Longmans, Green & Co. Ltd.

(c) *The Merchant Navy*—Sir Archibald Hurd (1921).

(d) *Military Operations*—France and Belgium (1914).

List of British Merchant Shipping sunk or attacked—British Government (Admiralty) (1919).

The Tanks, Vol. I, 1914–1939—B. H. Liddell Hart (1959), published by Cassell.

Gallipoli—Robert Rhodes James (1965), published by B. T. Batsford.

Gallipoli, the Fading Vision—John North (1966), published by Faber & Faber Ltd.

The Most Formidable Thing—Rear-Admiral Sir William Jameson, K.B.E., C.B., (1965), published by Rupert Hart-Davis Ltd.

Flying Angel—L. A. G. Strong (1956), published by Methuen & Co.

Sailortown—Stan Hugill (1967), published by Routledge & Kegan Paul.

Shipshape and Bristol Fashion—John C. G. Hill, M.A.

Bristol—As it was and as it is—G. F. Stone (1909).

A Short History of the Port of Bristol—Charles Wells (1909).

The Annals of Bristol in the Nineteenth Century—John Latimer (1887).

The Georgian Buildings of Bristol—Walter Ison F.S.A. (1952), published by Faber & Faber Ltd.

Lloyd's Registers of Shipping (1910–1921).

Lloyd's List.

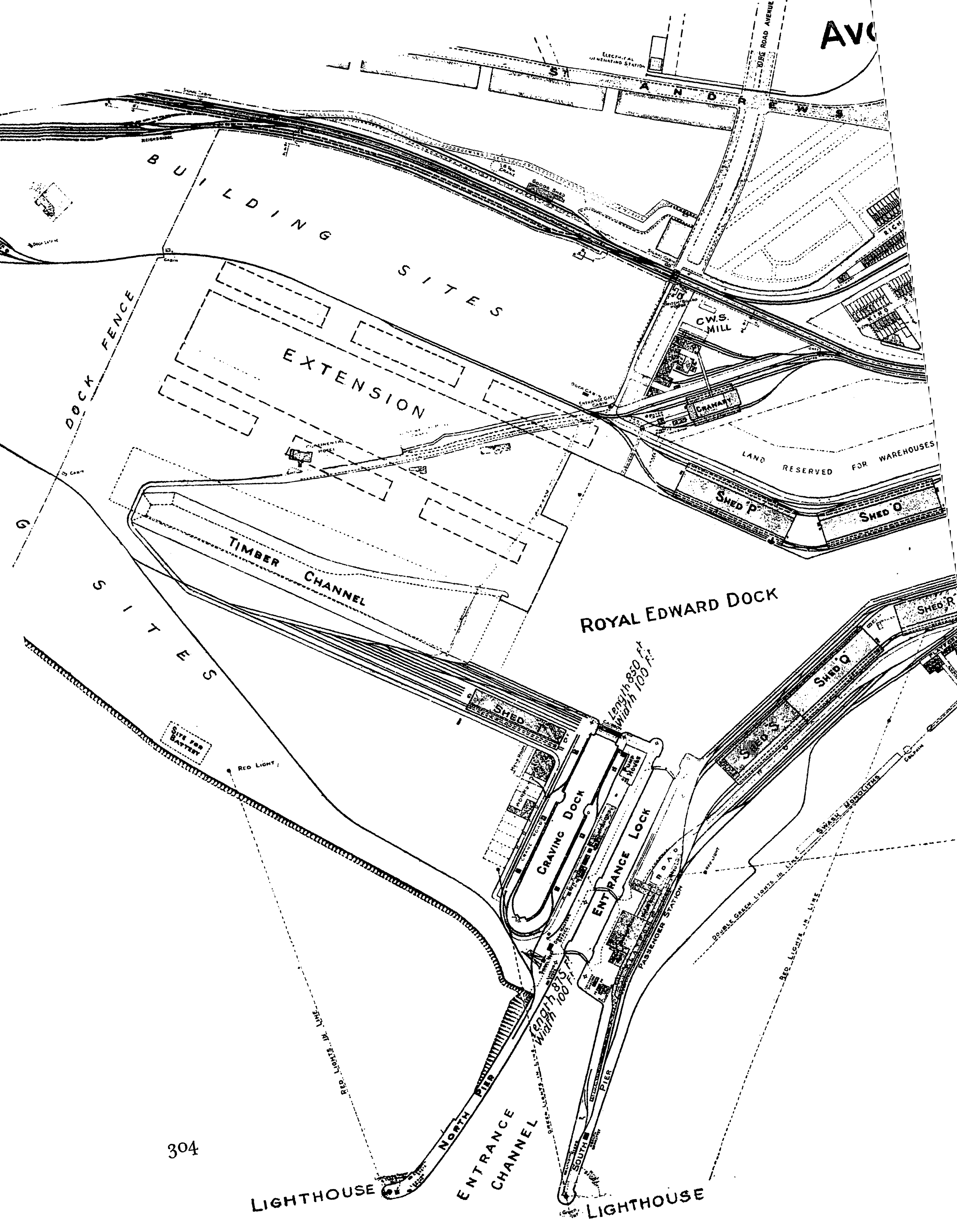
North Somerset Mercury.

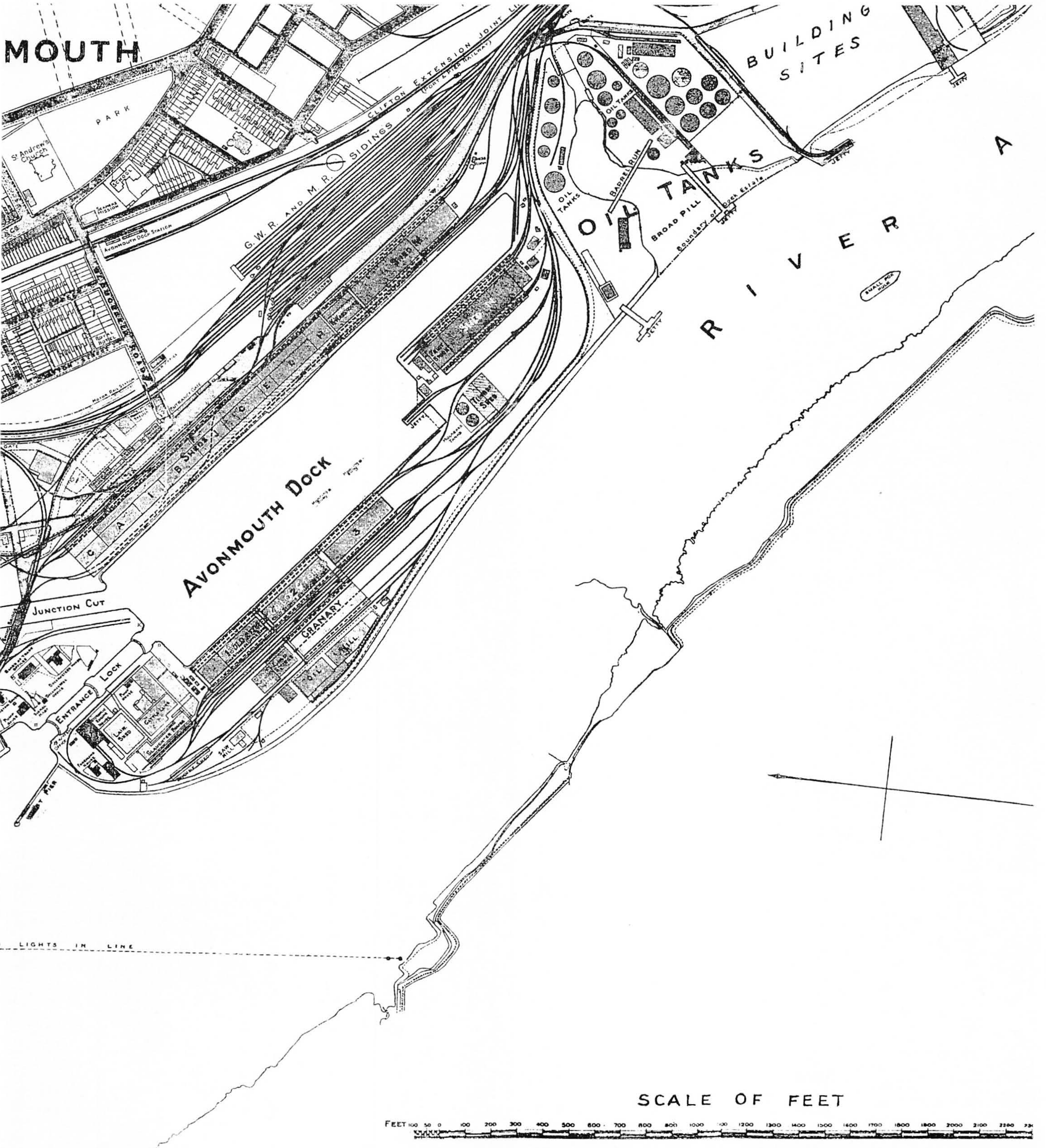
Port of Bristol

PLAN OF THE AVONMOUTH DOCKS

from

Port Handbook, 1913


Avo
Electrical Generating Station
Gloucester Road Avenue
St Andrews
Signal Cabin
Weighbridge
Goods Shed
Building Sites
Extension
Dock Fence
G Sites
Timber Channel
Continental Hotel
Dock Cabin
Entrance Gate Cabin
C.W.S. Mill
Granary
Rich
King
Land Reserved for Warehouses
Shed P
Shed O
Royal Edward Dock
Shed R
Shed Q
Shed S
Shed T
Length 850 ft
Width 100 ft
Pump House
Graving Dock
Entrance Lock
Road
Passenger Station
Site for Battery
Red Light
Swash Monoliths
Double Green Lights in Line
Red Lights in Line
Green Lights in Line
Length 875 ft
Width 100 ft
North Pier
South Pier
Entrance Channel
Lighthouse
Lighthouse

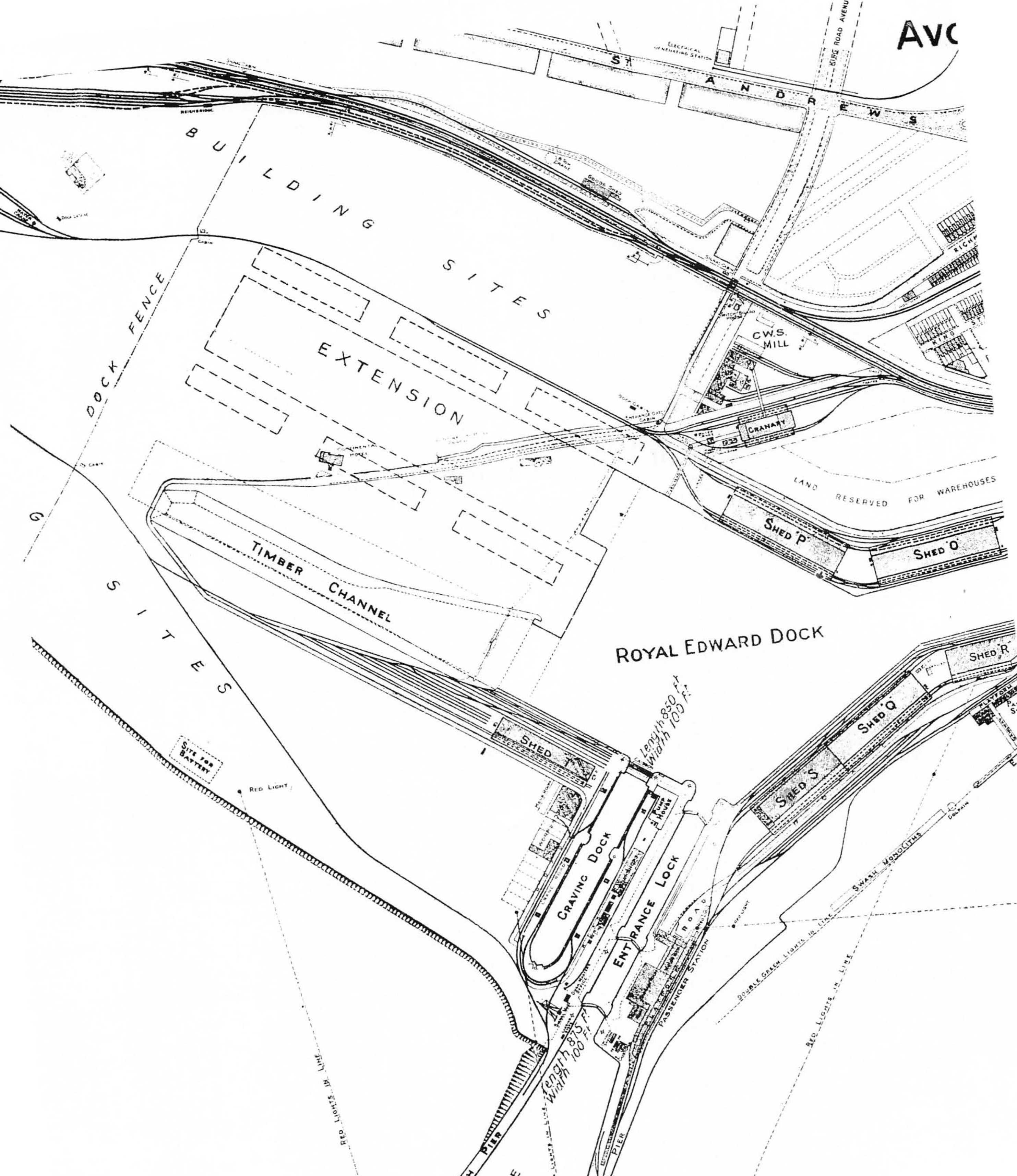

MOUTH
PARK
St Andrews Church
SCHOOL
SEAMANS MISSION
AVONMOUTH DOCK STATION
ROYAL HOTEL
GLOUCESTER ROAD
CLIFTON EXTENSION JOINT LINE (PORT & PIER RAILWAY)
G.W.R. AND M.R. SIDINGS
OIL TANKS
BARREL RUN
BROAD PILL
Boundary of Dock Estate
JETTY
BUILDING SITES
RIVER A
SMALL POX HULK
AVONMOUTH DOCK
CARGO SHEDS
JUNCTION CUT
ENTRANCE LOCK
LAIR SHED
GRANARY
OIL MILL
SAW MILL
CATTLE LAIRS
SLAUGHTER HOUSE
PIER
LIGHTS IN LINE
SCALE OF FEET
FEET 100 50 0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200

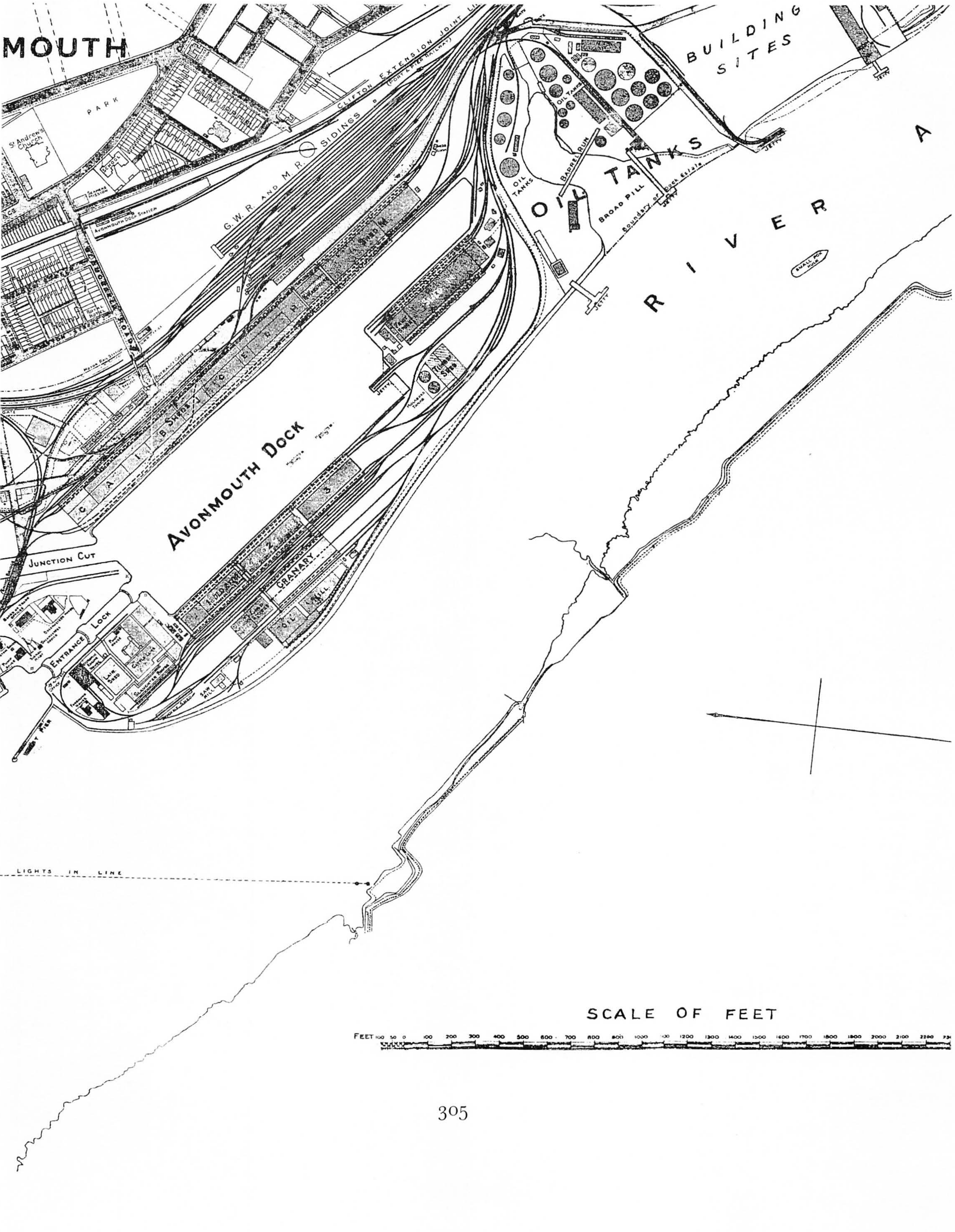
Port of Bristol

PLAN OF THE AVONMOUTH DOCKS

from

Port Handbook, 1913


AVO
St. Andrews
King Road Avenue
Electrical Generating Station
Building Sites
Dock Fence
Extension
Timber Channel
C.W.S. Mill
Granary
Land Reserved for Warehouses
Shed 'P'
Shed 'O'
Royal Edward Dock
Shed 'R'
Shed 'Q'
Shed S
Shed
Length 850 ft Width 100 ft
Site for Battery
Red Light
Graving Dock
Entrance Lock
Pump House
Road
Passenger Station
Swash Monoliths
Double Green Lights in Line
Red Lights in Line
Length 875 ft Width 100 ft
North Pier
South Pier
Entrance Channel
Lighthouse
Lighthouse
Building Sites

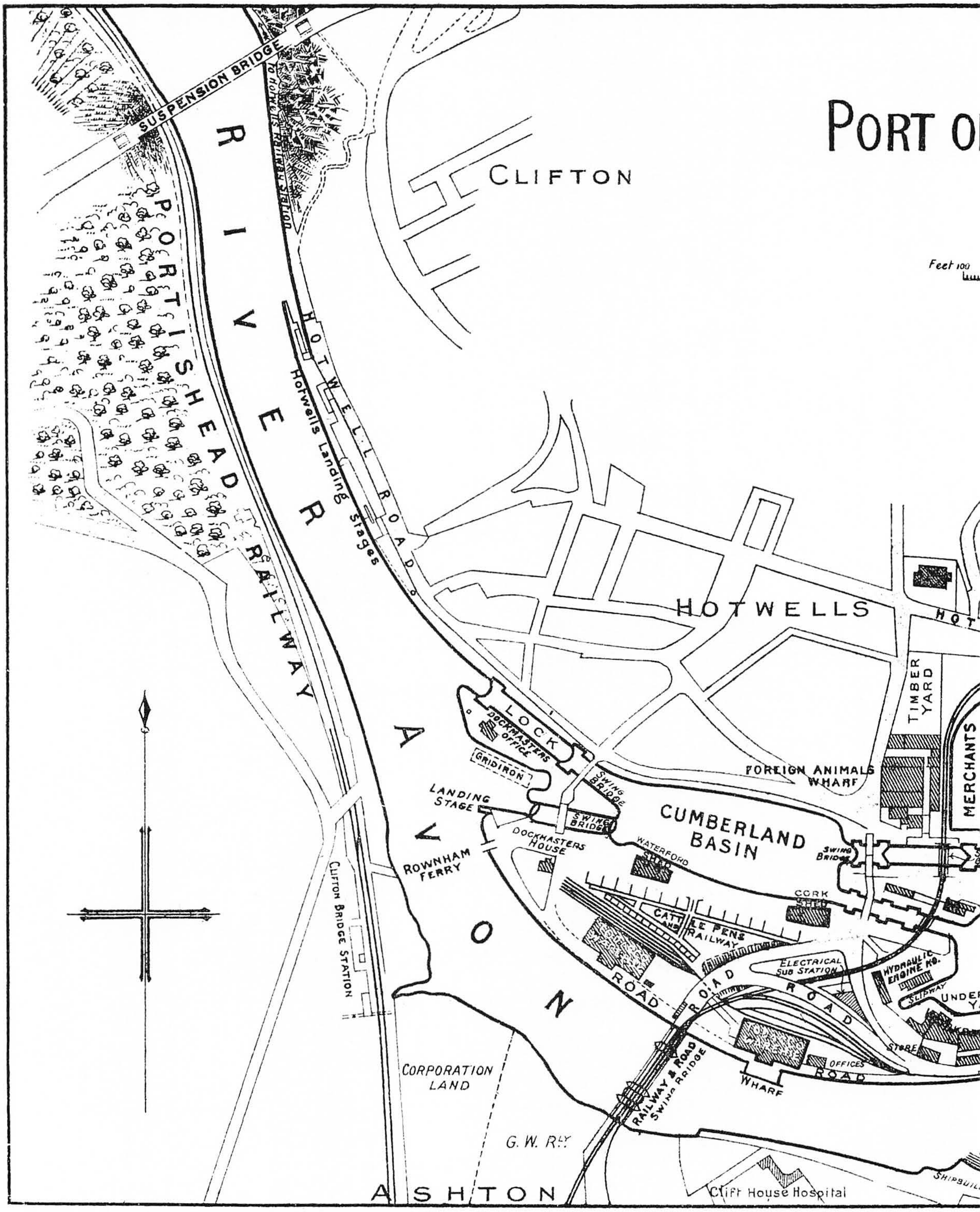

MOUTH
PARK
St Andrews Church
SCHOOL
SEAMAN'S MISSION
AVONMOUTH DOCK STATION
CLIFTON EXTENSION JOINT LINE
(PORT & PIER RAILWAY)
G.W.R. AND M.R. SIDINGS
BUILDING SITES
OIL TANKS
OIL TANKS
OIL TANKS
BARREL RUN
BROAD PILL
Boundary of Dock Estate
JETTY
JETTY
JETTY
JETTY
RIVER A
SMALL POX HULK
B SHED
C
AVONMOUTH DOCK
JUNCTION CUT
ENTRANCE LOCK
GRANARY
OIL MILL
SAW MILL
LAIRS SHED
SLAUGHTER HOUSE
PIER
LIGHTS IN LINE
SCALE OF FEET
FEET 100 50 0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200

Port of Bristol

PLAN OF THE CITY DOCKS

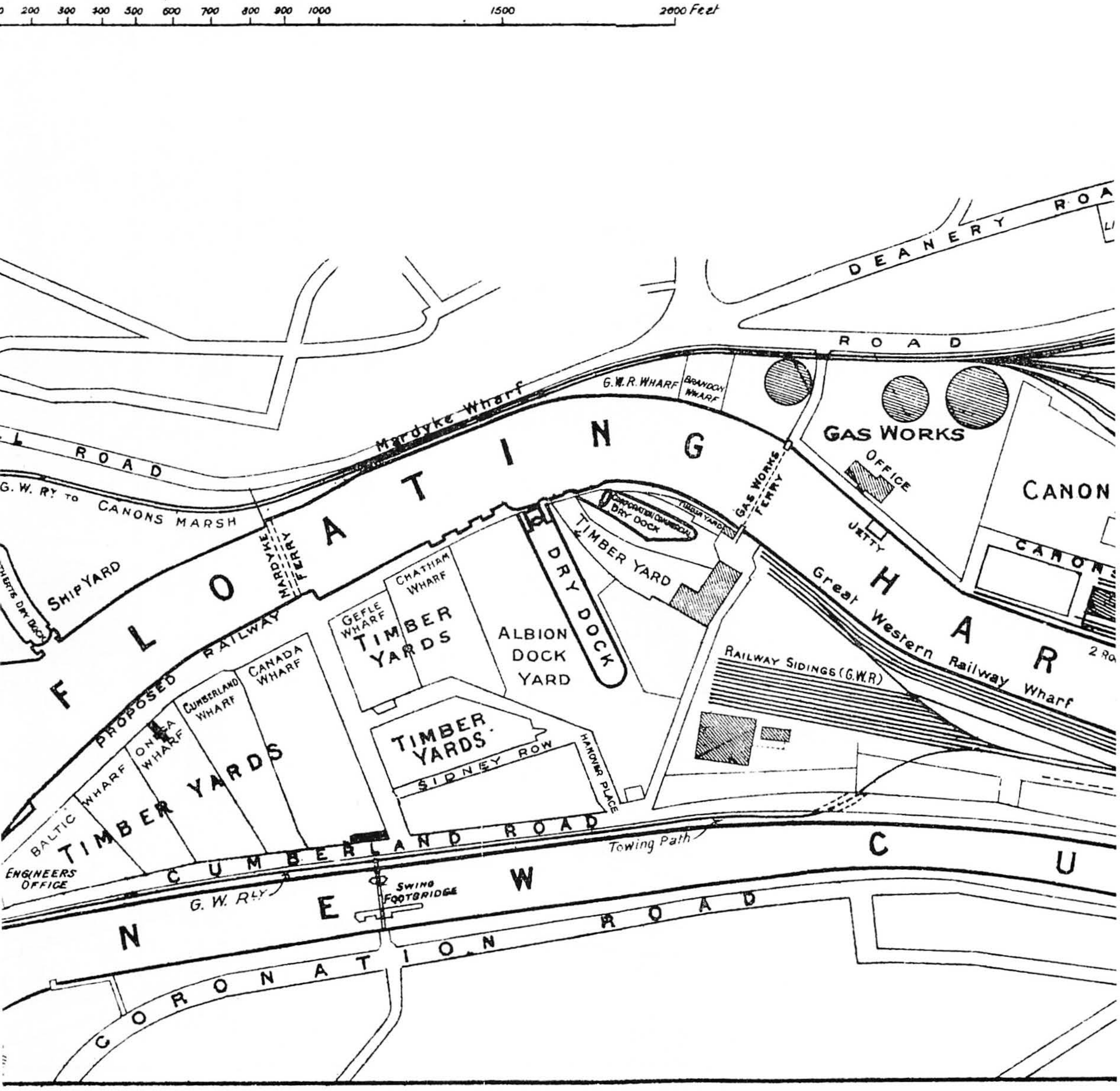
from

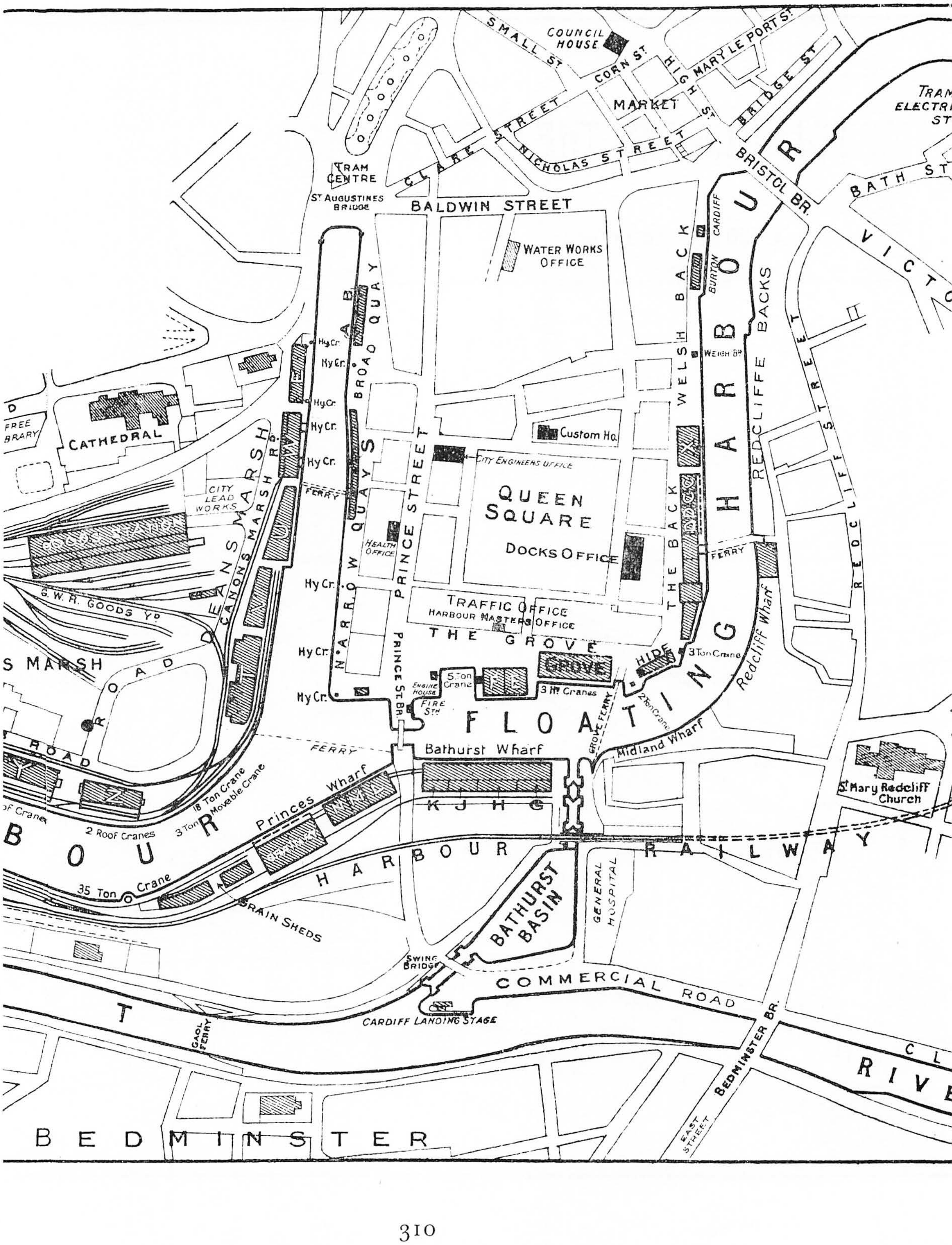
Port Handbook, 1913


PORT O
CLIFTON
SUSPENSION BRIDGE
RIVER AVON
PORTISHEAD RAILWAY
HOTWELL ROAD
Hotwells Landing Stages
HOTWELLS
TIMBER YARD
MERCHANTS
LOCK
DOCKMASTERS OFFICE
GRIDIRON
LANDING STAGE
SWING BRIDGE
FOREIGN ANIMALS WHARF
CUMBERLAND BASIN
DOCKMASTERS HOUSE
WATERFORD SHED
CORK SHED
ROWNHAM FERRY
CATTLE PENS AND RAILWAY
ELECTRICAL SUB STATION
HYDRAULIC ENGINE HO.
SLIPWAY
ROAD
STORE
OFFICES
WHARF
RAILWAY & ROAD SWING BRIDGE
CLIFTON BRIDGE STATION
CORPORATION LAND
G. W. RLY
ASHTON
Cliff House Hospital
Feet 100

BRISTOL- PLAN OF THE CITY DOCKS

SCALE 500 FEET TO AN INCH

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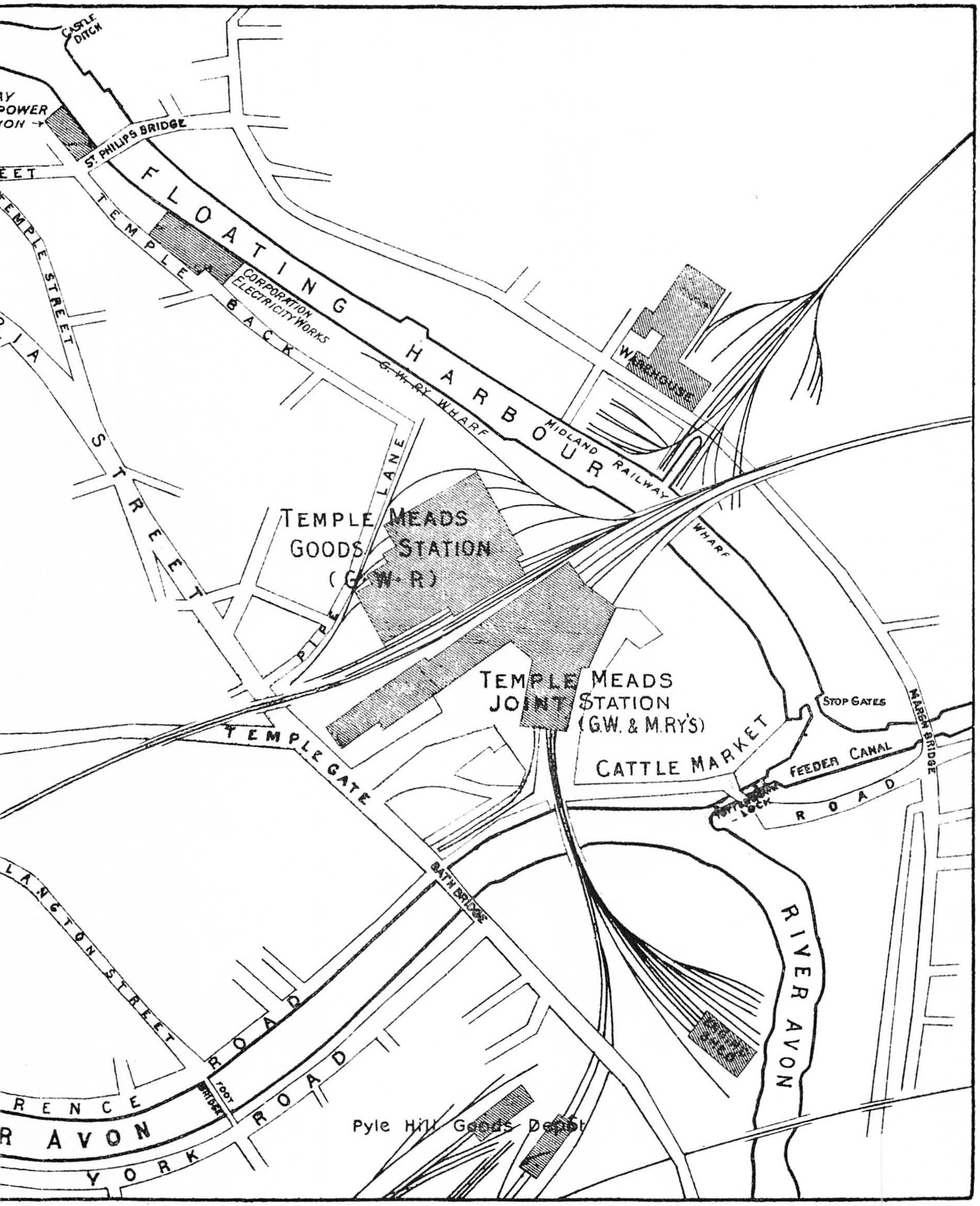
COUNCIL HOUSE
CORN ST
HIGH ST
MARYLE PORT ST
BRIDGE ST
MARKET
CLARE STREET
ST NICHOLAS STREET
TRAM CENTRE
ST AUGUSTINES BRIDGE
BALDWIN STREET
BRISTOL BR.
BATH ST
VICTO
TRAM ELECTRI ST
WATER WORKS OFFICE
BROAD QUAY
A B
WELSH BACK
CARDIFF
BURTON
WEIGH BR
REDCLIFFE BACKS
REDCLIFFE STREET
REDCLIFF STREET
HARBOUR
FREE BRARY
CATHEDRAL
Hy Cr.
CUSTOM HO.
CITY ENGINEERS OFFICE
QUEEN SQUARE
DOCKS OFFICE
HEALTH OFFICE
NARROW QUAYS
PRINCE STREET
THE BACK
FERRY
CITY LEAD WORKS
CANONS MARSH RD
DEANS MARSH
GOODS STATION
G.W.R. GOODS YD
TRAFFIC OFFICE
HARBOUR MASTERS OFFICE
THE GROVE
GROVE
HIDE
3 Ton Crane
Redcliff Wharf
S MARSH
ROAD
5 Ton Crane
ENGINE HOUSE
FIRE STN
3 Hy Cranes
2 Ton Crane
PRINCE ST BR.
FLOATING
GROVE FERRY
Midland Wharf
Bathurst Wharf
K J H G
St Mary Redcliff Church
18 Ton Crane
3 Ton Moveable Crane
Princes Wharf
of Cranes
2 Roof Cranes
BOUR
HARBOUR RAILWAY
35 Ton Crane
GRAIN SHEDS
BATHURST BASIN
GENERAL HOSPITAL
SWING BRIDGE
COMMERCIAL ROAD
CARDIFF LANDING STAGE
GAOL FERRY
T
BEDMINSTER BR.
CL
RIVE
EAST STREET
BEDMINSTER



LAVARS & Co LITH BROAD St BRISTOL.

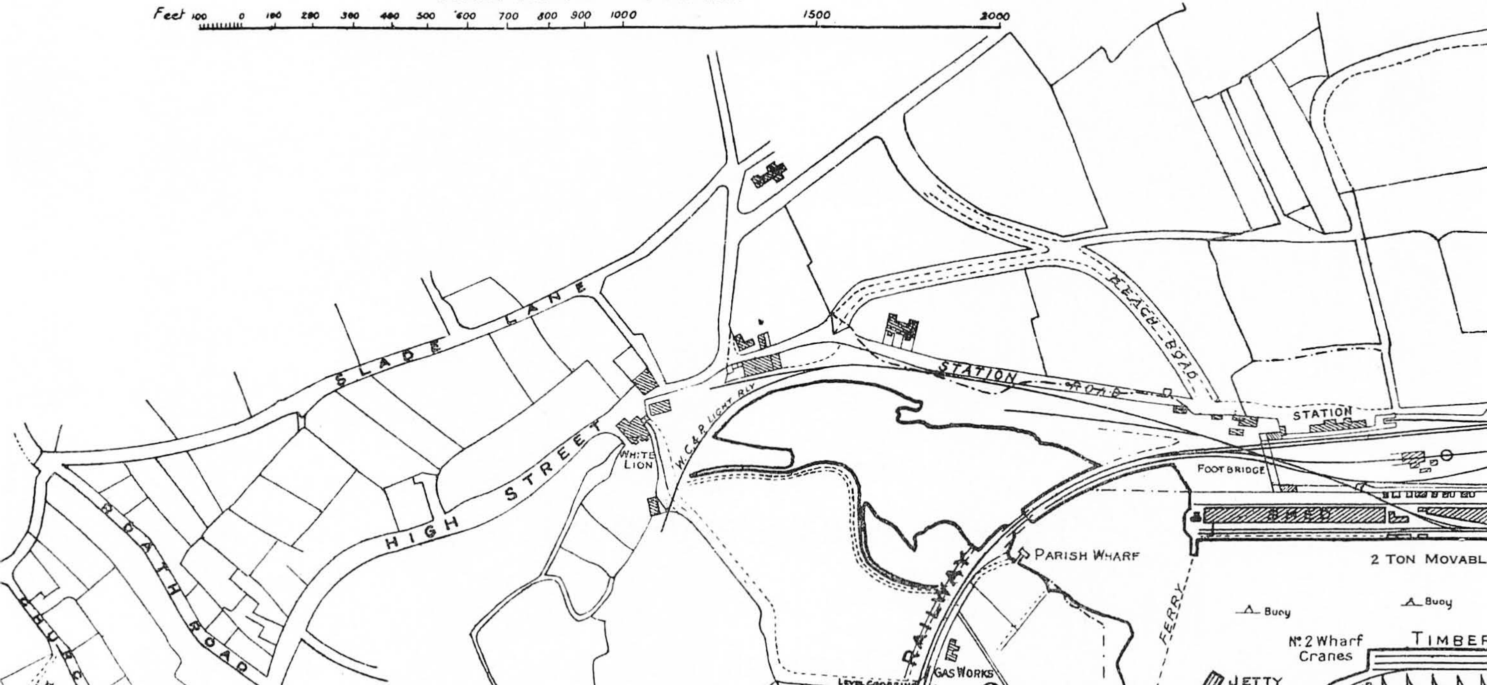
Port of Bristol

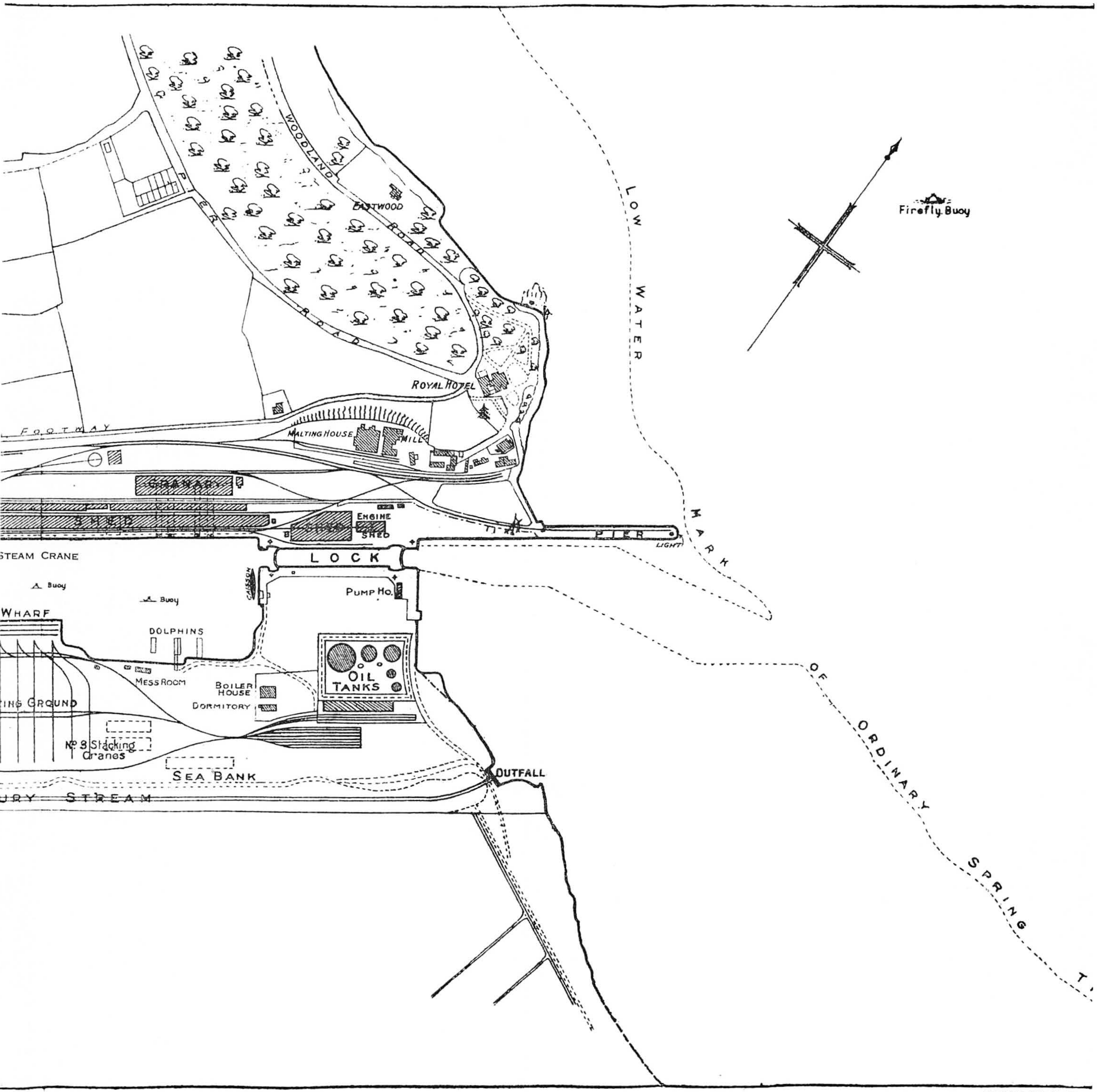
PLAN OF PORTISHEAD DOCK

from

Port Handbook, 1913

PORT OF BRISTOL – PLAN OF THE PORTISHEAD DOCK

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LOW WATER MARK OF ORDINARY SPRING T
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EASTWOOD
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FOOTWAY
MALTING HOUSE
MILL
GRANARY
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ENGINE SHED
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PIER
LIGHT
LOCK
STEAM CRANE
Buoy
Buoy
CAISSON
PUMP HO.
WHARF
DOLPHINS
MESS ROOM
BOILER HOUSE
DORMITORY
OIL TANKS
ING GROUND
No. 3 Stacking Cranes
SEA BANK
OUTFALL
URY STREAM
LAVARS & Co LITH. BROAD

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